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ABSTRACT

This study develops guidelines for the use of television in nonformal education in developing countries. Its recommendations are based on analysis of three cases of television usage: in the formal educational system in El Salvador, community development in village Alaska, and in nonformal education for parenthood in Bogota, Colombia. A selective review of the literature on nonformal education is followed by discussion of three basic but conflicting approaches for the selection of goals, objectives, and methods. A list of dimensions is developed along which educational television varies, including project context and approach, software, and hardware. The three case studies presented represent a progression in time and in philosophical digression from the traditional concept of educational television. A list of tentative guidelines is submitted as a model for the consideration of designers of subsequent television projects for nonformal education. (Author/CMV)

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NFE-TV
TELEVISION FOR NONFORMAL EDUCATION

by

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Center for International Education
School of Education
University of Massachusetts, Amherst

1975

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FORWORD

To many observers television and other so-called big media are in direct contradiction to the basic principles of nonformal education. During the 1960's a strong surge of interest took place in international development circles in the tremendous potential of television to solve the educational problems of many new countries. Today, big media are well entrenched even in the developing countries with satellites being launched over India and Indonesia and large-scale national television systems already installed in many countries. Partly as a result of this development a reaction has set in against the cost and unwieldy nature of these national television systems. Many educators are disenchanted with the use of television in developing countries.

This study takes the first steps in bridging the gap between large-scale media and small-scale participative uses of the same technology. The author argues forcefully for bringing television back into the repertoire of tools for educational development. Using three case studies, he demonstrates an alternative approach to the use of television technology which combines the flexibility and low cost of the latest technology with the approaches to nonformal community education of philosophers like Ivan Illich and Paulo Freire. The cases illustrate facilitative uses of television which can result in people's increased control over their own environment and which helps them develop the ability to analyze and solve community problems. Such an approach requires that the locus of control over television programming be shifted from professional

producers to the consumers themselves. It also involves changing the widely held belief that only professionals can produce effective programming. The goal of educational programming changes from the quality of the finished television program to the degree and amount of participation which takes place during production and viewing.

The author combines his personal experience in Latin America and in media production with the philosophy and approach which has emerged from the activities of the Center for International Education in the field of nonformal education. The author has been directly involved with the Center's efforts in rural Ecuador over the past three years and is able to draw on the understanding and experience which has emerged from that project. This study is part of a growing interest in the Center on the use of media in a humane and facilitative manner which promotes personal as well as community development. We hope that this study will stimulate further dialogue and experimentation as others strive to bridge the gap between the potential of television and the needs of community people everywhere.

David R. Evans
Amherst, Massachusetts, 1975

ACKNOWLEDGEMENT

In recognition of the foresight of the people of Igloolik. In the hope that someday television may be worthy of their further attention.

Eskimo village turns
down installation of TV

By the Associated Press

Igloolik, Northwest Territories
The predominantly Eskimo settlement of Igloolik on the north end of the Melville Peninsula has rejected the introduction of television into the community.

In a referendum, 53 voted against the introduction of television services, 47 voted in favor, and 26 wanted more time to study the effects television would have on their children and their way of life.

Ken MacRury, a community development officer in Igloolik, said he thinks many people in the community "are concerned that their culture will be eroded by TV."

Christian Science Monitor March 27, 1975.

ABSTRACT

This study develops guidelines for the use of television in nonformal education in developing areas of the world. Its recommendations are based upon analysis of three cases of television usage: in the formal educational system in El Salvador, in community development in village Alaska, and in nonformal education for parenthood in Bogotá, Colombia.

The study begins with a selective review of the literature on nonformal education. Three basic approaches to the selection of goals, objectives and methods for nonformal education are developed from the conflicting orientations of Philip Coombs, Ivan Illich, and Paulo Freire. Statements are drawn from the literature on the use of media in nonformal education. A list of dimensions are developed along which educational television varies. Analysis of the cases is made through application of the dimensions and in light of the three basic approaches to nonformal education.

The three cases have been chosen to represent a progression in time and in philosophical digression from the traditional concept of educational television. Increasingly inexpensive and versatile television production hardware is applied to objectives which are increasingly divergent from those of traditional formal education. The implications of these trends are summarized in a list of

tentative guidelines which are submitted for the consideration of designers of subsequent television projects for nonformal education.

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CHAPTER I

TELEVISION AND NONFORMAL EDUCATION

After an initial period of euphoria in the 1960's, the enthusiasm for educational television (ETV) among international development educators seems to have evaporated. Officials of international agencies which have sponsored ETV projects in the past now talk of ETV as an expensive, unwieldy technology, which is not generally appropriate for education in developing countries.[1] Wilbur Schramm, evaluator of several large and well publicized ETV projects, has classified ETV as a "big medium," and has asked himself whether even national educational reforms might not be better serviced by "little media" such as film strips and radio.[2] The new field of nonformal education has confined itself almost exclusively to radio, among the broadcast media.[3]

The rediscovery of radio and other low-level media by international educators is long overdue. All communications media have a role to play in education. Balanced

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[1]This statement is based on conversations with officials of several international agencies which have sponsored ETV projects.

[2]Wilbur Schramm, Big Media, Little Media (Washington, D.C.: Academy for Educational Development, 1973), p. 114.

[3]Henry T. Ingle, Communication Media and Technology: A Look at Their Role in Nonformal Education Programs (Washington, D.C.: Academy for Educational Development, 1974), p. 12.

evaluation of the role of different media depends upon a willingness to consider all media in terms of the range of educational situations in developing countries. Television should not be ruled out, but reappraised.

The experience with ETV in developing countries in the 1960's involved a very specialized and very atypical application of the technology. In order to put this type of television in context, TV must be discussed in relation to two terms: hardware and software.

Hardware refers to the equipment of the television system, the technical tools used for production, transmission and reception of programs. Software refers to the programming itself, the messages which flow through the TV communications system. In developed countries, an ETV project generally does not have to devote much of its energies to hardware considerations.

For example, the producers of Sesame Street were able to assume that their audience had access to a TV set whose maintenance the project would not have to coordinate, execute, or finance. They could also assume that they would not have to build a television transmission system. Rather, they could use the facilities of the American Corporation for Public Broadcasting. Furthermore, the producers of Sesame Street did not have to build their own

studios for producing their program. They could use the facilities of an existing television station. As a result, they were able to concentrate their energies and resources on the production of effective software.

On the other hand, major ETV projects in developing countries in the 1960's involved the introduction of television into settings where the medium had not previously existed. These ETV projects had to take responsibility for the transmission and reception functions as well as the production of programming. These projects attempted to take the medium where it had not already arrived, rather than to work within the confines of the medium as it already existed. The result was an overemphasis on the hardware of television and virtual neglect of the importance of quality software.

If TV educators were to confine themselves to those populations in developing countries which already have access to television receivers, they could concentrate their efforts on the production of effective programming. Under these conditions, the economics and the complexity of ETV might appear far more favorable.

A second reason why television may be a more attractive medium than can be concluded from the experience of the 1960's involves the impressive changes in the tech-

nology of TV production. Advances in the quality of inexpensive film and video tape hardware have lowered drastically the costs of production and the amount of technical skill necessary to produce programming. As a result, ETV no longer has to be the highly professionalized, highly financed medium which it has been.

A third reason why television deserves consideration by educators is its sustained expansion in developing countries as a medium of entertainment and information. For nonformal educators, there will be a particular challenge in producing programming which entertains, informs and educates. By producing programming which can compete for viewers with standard television fare, nonformal education can gain a toehold in a medium which seems destined to play an increasingly important role in the communications systems of developing countries.

The expansion of television in developing countries takes place in an environment radically different from that of the developed countries. In order to understand the potential role of ETV in developing countries, it is necessary to recount, in broad terms, the backdrop against which the natures of education and television are evolving in developing countries.

There is ample documentation of the historic rise

of population in the developing countries which began during the 1940's, concurrent with the spread of western medicine. Death rates fell, while birth rates remained constant, and populations began to soar. High population growth rates have affected developing countries' ability to feed, employ, and raise living standards for their peoples.

When populations began to increase, it was only a matter of time until education was affected:

> In the 1950's educational systems all over the world began a process of expansion without precedent in human history. Student enrollments more than doubled in many places. Expenditures on education rose at an even faster rate.[4]

Expenditures on education are far lower in less developed countries than in developed countries. In 1968, developed countries were spending $120 billion on education. The less developed countries were spending $12 billion to educate the same number of students as those enrolled in the developed countries.[5]

Even in the developed countries, schooling has been attacked as impossible to sustain financially. Currently, the developed countries are blessed by a leveling and in

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[4]Philip Coombs, The World Educational Crisis (New York: Oxford University Press, 1968), p. 3.

[5]David Evans and William Smith, "Nonformal Education: The Light at the End of the Tunnel," Amherst, University of Massachusetts, 1972, p. 3. (Mimeographed.)

some cases a decrease of population and of enrollments. On the other hand, the demand for education in less developed countries continues to soar with rising populations.

In spite of the recent growth of formal education systems, a sizable portion of the world's children never enter school. In Africa only 40% of the children ever attend school. In Asia and Latin America, that figure is between 50% and 60%.

> Most of the children of the world are not in school. Most of those who enter drop out after a very few years. Most of those who succeed in school still become drop-outs at a higher level. UNESCO data show that only in a small minority of nations do even half the children complete the first six grades.[6]

As of 1960, half the children who entered school in Latin America never started second grade. Half those who started second grade never entered third grade. Three fourths have dropped out before they have learned to read.[7]

However, this is not to say that school does not succeed in teaching the majority of students whom it educates for such short times.

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[6]Everett Reimers, School Is Dead (Middlesex, England: Penguin Books, 1971), p. 15.

[7]Ibid., p. 17, based on data gathered by the UN Commission on Latin America.

> No child, however, fails to learn from school. Those who never get in learn that the good things of life are not for them. Those who drop out early learn that they do not deserve the good things of life. The later dropouts learn that the system can be beat, but not by them. All of them learn that school is the path to secular salvation, and resolve that their children shall climb higher on the ladder than they did.[8]

According to many of the critics of formal education, this is the dynamic of schooling. Critics refer to evidence that schooling world-wide is a middle-class institution. In this view, middle-class children always perform best in schools. Therefore, expansion of schooling discriminates against those people of lower social and economic status, who most need and deserve education.

> No one refers anymore to preparing a student for his station in life. But the statistics in every country, including the Soviet Union and the U.S., show the same pattern: the social or economic class or level of one's parents determines one's educational chances. Those who have passed with the least shock into the system go the farthest in it. Those to whom the shock is severe are labelled stupid and are tolerated no longer than the law requires.[9]

In this view, to rely upon expansion of schooling to deal with increased demand by lower social and economic classes for education is a self-defeating proposition.

Thus, for pedagogical and cultural reasons, as well as economic reasons, it has seemed imperative to many

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[8]Ibid., p. 15.

[9]Robert M. Hutchins, The Learning Society (Middlesex, England: Penguin Books, 1968), p. 25.

that expansion of education take other forms than that of traditional schooling:

> Those who come from an alien culture must be met on their own ground. If the object is to help everybody become as intelligent as he can be, a variety of methods and even of subjects may be permitted, as long as there is some defensible connection between means and ends.[10]

It is in response to these sentiments that planners have called for a professionalization of the myriad types of learning activities that exist and have always existed beyond the formal educational system. One leading planner refers to:

> that bewildering assortment of nonformal education and training activities that constitute--or should constitute--an important complement to formal education in any nation's total educational effort.[11]

With a mind toward making non-school learning activities less bewildering, a literature on nonformal education has grown in recent years. In addition to classifying and legitimizing existing out-of-school forms of learning, writers on nonformal education have defined value positions, goals, objectives, and method for nonformal education. There is general agreement that nonformal education should consider use of all the communi-

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[10] Ibid., p. 37.

[11] Philip Coombs, The World Educational Crisis, p. 138.

cation channels available in a given environment. One such resource is the mass media environment.

Dr. Henry Cassirer, Director of UNESCO's Division of the Use of Communication Media in Out of School Education, advocated that governments plan development and utilization of media as a national resource, as "strategic tools of society" in attacking "issues under conditions of change and mutation." The specific uses advocated are very much within the realm of nonformal education: 1) situations requiring a rapid educational response: epidemics, agricultural seasonal conditions, political emergencies; 2) new problems which will be around for some time: drug abuse, ecology; 3) long-run problems which would "normally" be handled by permanent formal educational institutions, if such institutional capacity existed.[12]

Examples of the types of media resources which may be available range from unused capacity of the Ministry of Education printing presses to an unenforced broadcasting law requiring that a given amount of every radio and television station's time be dedicated to educational and cultural programming to unutilized channel capacity

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[12]Henry Cassirer, "The Significance of Communication Media in Out of School Education"(Paris: UNESCO, 1971), p. 10.

in a national educational television network.

For the present purposes, the above trends and observations are best summarized as four primary assumptions regarding the situation in which the less developed countries find themselves. These assumptions underly the rest of the present study.

1. Developing countries are confronted with interrelated crises of stagnant or slowly rising food production, rapidly rising populations, and attendant problems of health, malnutrition, unemployment, and poverty.

2. Linked to these crises is an educational crisis involving schooling systems which are proving incapable of coping with the educational needs of less developed countries.

3. Nonformal education (NFE) has been proposed as a means of dealing with some aspects of the educational crisis.

4. Nonformal education needs to consider use of all mass communications media which are available in less developed countries.

In these primary assumptions is contained the rationale for investigating the utility of television to nonformal education. Any contribution which television can make to nonformal education may have positive impacts upon the overall educational crisis, and the broader social

crises which underlie it.

The Problem

To date, nonformal education has largely ignored television. In a recent review of media applications in nonformal education, only two instances were cited where television was used for nonformal education.[13] For example, in El Salvador's case, educators have not made use of excess channel capacity in the national educational television network for nonformal education. They want to do so but feel they lack the resources and know-how.[14]

The notions of educators in developing countries regarding the costs, complexities and potentials of television were formed during the 1960's, when the first major projects in educational television (ETV) in the developing countries were undertaken. The strengths and weaknesses of television, as it was known then, have not been adequately assessed in terms of nonformal education's objectives and methods. The technological, economic, pedagogical, and political aspects of educational television

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[13]Henry T. Ingle, Communication Media and Technology: A Look at Their Role in Nonformal Education Programs (Washington, D.C.: Academy for Educational Development, 1974).

[14]Personal interview with Ray San Giovanni, USAID Education Officer, San Salvador, El Salvador, November 10, 1974.

as it was introduced to developing countries in the sixties has not been appraised from the point of view of the nonformal educator.

Nor have the changes in television since that period been reviewed, in order to see if they make television a potentially more attractive medium for the nonformal educator. In the technological realm, cheap and portable TV production equipment has emerged in the years since 1968. In the economic realm, costs of this equipment and the materials necessary to operate it, have fallen drastically in comparison with the traditional professional equipment. In the pedagogical realm, new theories and techniques for exploiting these developments have been invented. All of these changes need to be reviewed and appraised for their utility to nonformal education.

The above formulation rests on a number of secondary assumptions about the nature of the problem:

1) Television will continue to expand its coverage world-wide.

2) Television can attract the attention of diverse populations and can entertain them.

3) Television can have educational effects with a wide diversity of populations.

4) Some of the populations which currently have access to television in developing countries are of interest to nonformal educators.

5) Television can be a viable medium for nonformal education of populations with access to that medium.

Purpose

The purpose of this study will be to develop a model of television hardware and software in consonance with the goals and objectives of nonformal education. This task will entail three sub-purposes: to distill from the literature on nonformal education the major issues regarding goals and objectives of NFE, to develop a series of dimensions along which educational television projects vary, and to make choices along those dimensions which point the way toward a model for NFE-TV. In the course of developing the concept of NFE-TV, a number of questions will be confronted:

1) What are the main issues regarding goals, objectives and methods of nonformal education?

2) What are the major dimensions along which educational television projects vary?

3) Which of these dimensions are most important in determining the type of impact which a project will have upon its learners?

4) To what extent do ETV methods developed for formal education in developing areas satisfy or fail to satisfy the requirements of the nonformal educator?

5) To what extent do more recent innovative uses of television in developing areas satisfy or fail to satisfy the requirements of the nonformal educator?

6) To what extent can past ETV projects in formal and nonformal education settings point the way toward a generalized model for NFE-TV?

7) What might the major components of such a model be?

Procedures

A selective review of the literature on nonformal education will derive the main values, objectives and methods seen by the major writers in the field. Library searches will be conducted at the main library of the University of Massachusetts at Amherst, at the library of the Nonformal Education Center in the School of Education of the University of Massachusetts at Amherst, and at the library of the Information Center on Instructional Technology at the Academy for Educational Development in Washington, D.C.

Three case studies will be undertaken as part of this study: the case of television for formal education

in El Salvador, the Skyriver case of community television in Alaska, and the case of a proposed television project for nonformal education in Bogotá, Colombia. These cases will be researched through reading of available documents and through open-ended in-depth interviews with people who have been intimately involved in these projects.

Finally, from the above information, the writer will specify lines of development for a general model of NFE-TV. A list of criteria for TV hardware and TV software will be developed. These criteria will be justified in terms of value positions, objectives, and methods which have been chosen from the literature on nonformal education. The writer does not propose to foster development of the definitive NFE-TV model. Rather, one approach of many possible approaches to NFE-TV will be proposed, based on a number of value positions which will be made explicit during the course of the investigation. Both the nonformal educator and the television producer must make many of their decisions on the basis of intuition rather than science. The literature on educational television, which has a longer history, contains more explicit recognition of this fact than does the nonformal education literature.

> Theory and research are light years away from being able to prescribe in advance the details for message production. Theory can give guidance to the creative artist and his output can be tested in rigorous

> evaluative research. But what he does in actual message design and production is more art than science. This should be willingly accepted and developed, not resisted or considered a temporary evil.[15]

As the work of the educational TV producer derives in large measure from intuitive and value choices, so do the objectives and methods of the nonformal education planner. The values underlying the NFE-TV model will be made explicit.

Limitations

This study will not take a comprehensive look at television. Little attention will be paid to problems of transmission, reception or classroom utilization of television. Questions of organization, financing and staffing of an educational television enterprise will also be of secondary importance. The NFE-TV model proposed in this study assumes the existence of a transmission and reception infrastructure as well as an established ETV enterprise. NFE-TV asks the question: What types of programming could be inserted into the excess capacity of such an infrastructure which would be in consonance with this author's view of nonformal education? Why have these types of

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[15]Keith Mielke, "Reviewing the Link Between Communications and Educational Technology," Audio Visual Communications Review XX (Washington: Association for Educational Communications and Technology, Winter 1972), p. 394.

programming not been produced in the past? And how can their production be encouraged now?

This study will also restrict the breadth of its focus on nonformal education. Relatively little attention will be paid the staffing, organization, finance, "teacher behaviors," learner characteristics, facilities, scheduling, governance, or reward structures of the total nonformal education process. Concentration will be on those aspects of nonformal education's objectives and learning methodologies which have most direct bearing upon the types of media software that would be appropriate to nonformal education.

Combining these two strains, the study will propose a model for NFE-TV. The study will define where it is practical and realistic to consider implementing this model, what the objectives and methods would be, and what hardware and personnel would be necessary. This is not meant to be a definitive statement on the subject of television for nonformal education but rather the opening of a process of debate on the subject.

Significance

Most of the large-scale ETV projects of the 1960's started from ground zero, in a situation where there was no transmitter, no network of receivers, and no television

production organization. These projects also had to consider how to integrate television into an ongoing formal education system. For these reasons, conventional ETV projects in developing countries tended to focus on hardware and logistical problems and stimulating utilization of the television in the classrooms.

As a result, these projects underemphasized the software of television, the actual images and sounds which were being produced and transmitted to the viewers. Far less attention was paid to the quality of TV software than to the utilization of television lessons in the classroom. This seems ironic, since software is the single most important output of a television project and the aspect of ETV over which a project can exert most complete control.

In the ten volumes of research produced on the Colombian ETV project by Stanford University's Institute for Communication Research, there was no significant mention of software considerations. That research was devoted almost exclusively to questions of logistics and program utilization in the schools. This study will de-emphasize those concerns, in order to concentrate on software: what kind of programming to produce, and how to produce it. Such an orientation should be valuable in a time when ETV has been cast aside by influential nonformal educators in favor of radio. When ETV does re-emerge it may be seen in

a new light.

Wilbur Schramm has designated radio as the primary medium for nonformal education.[16] Radio reaches more people at less expense, with less danger of message degradation or loss than any other medium. Since the advent of the transistor receiver, radio has been able to reach the world's rural poor, the primary clientele of nonformal education.

The realization of the primacy of radio as the world's major communications medium came on the heels of a decade of extensive experimentation in educational television in developing countries. Naively, educators had seen ETV as a virtual panacea to the world's educational problems. The reaction against ETV has been exaggerated. For example, while the U.S. Agency for International Development sponsored several major ETV projects during the late 1960's (El Salvador, Colombia, the Ivory Coast), in the 1970's USAID does not appear to be interested in sponsoring any ETV projects.[17]

This study will demonstrate that TV has a very important role to play in nonformal education, even though TV is not the medium that reaches the largest number of learners. The writer welcomes the end of ETV as global

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[16]Wilbur Schramm, Big Media, Little Media (Stanford: Stanford University, 1973), p. 253.

[17]This observation is made on the basis of several conversations with AID officials.

panacea, and hopes that the rediscovery of radio will lead to a more problem-oriented, situational approach to the question of which medium to apply in which nonformal education context. The emergence of such an approach will be hastened by a reasoned reappraisal of where to utilize television, how to utilize television and for what ends to utilize television.

The development of a situational approach to NFE-TV will necessitate the realization of the great variation within less developed countries regarding the degree of coverage which television enjoys. Whereas India had (as of 1971) an average of one receiver for every 12,500 people, Iraq had one receiver for every 20 people and Argentina had one for every seven people. To offer a point of reference, France and Japan each had one receiver for every four people and the U.S. had one for every two people.[18] No doubt, the distribution of television receivers among these populations is neither sociologically nor geographically balanced. Nonetheless, the figures do indicate that television's penetration (and thus the potential of NFE-TV) varies by orders of magnitude from one country to another. Some countries will be able to make immediate use of television for nonformal education,

[18] UNESCO Statistical Yearbook for 1972 (Paris: UNESCO, 1973), pp. 863-84.

others will have to wait.

Even if nonformal education were to limit its utilization of television to the filling of excess channel capacity in existing television distribution networks, there would be a large role, and a range of significant populations who could be reached by television for non-formal education's purposes. Those urban and semi-urban areas where normal commercial and political forces have built a television infrastructure would be the most likely opportunities. Those rural areas which are within the coverage of an existing educational television project are also current candidates for NFE-TV. In this connection, the projects in El Salvador, Ivory Coast, Colombia, and American Samoa come to mind.

However, television's role is bound to grow over the next two decades. Television's penetration of the world's population has been a very dynamic element in the world's communications system. In the years between 1950 and 1970, the number of television receivers in the world increased from five million to 250 million. Although the majority of this growth was in industrialized countries, television has also grown in spectacular fashion in the developing countries. In the years 1970-71, the number of television receivers in Iraq grew by 127%, to the average of one receiver for every 20 persons. Between 1960 and

1970, the number of television sets rose spectacularly in several cases:

COUNTRY	1960	1970
Egypt	50,000	529,000
Mexico	650,000	2,993,000
Brazil	1,200,000	6,100,000[19]

Of course, this is not to say that television is in these countries the mass medium that it is in the U.S. or Europe. However, it does indicate television's ability across cultures to grow of its own momentum. As economic development proceeds, one can expect television to grow outward from the cities and downward toward the lowest social and economic classes. If the American experience is any indication, the lower classes in developing countries may feel a much stronger attraction to television than their more affluent countrymen.

In addition to the normal commercial forces which propel the world-wide expansion of television, one should recognize the existence of the political forces which act upon TV. Television gets along very well with governments, because it has to. Television usually depends upon licensing from the government to utilize "the people's" airwaves. Since there are a small number of national television organizations in any country, televisions are more easily con-

[19]Ibid., pp. 863-84.

trolled by government than print media, which can be produced on a small scale with less resources.

Furthermore, the communications impact of television may be favorable to a government that is trying to build national identity. Wilbur Schramm wrote, media can "break the bonds of distance and isolation," take people from traditional society "to the great society where all eyes are on the future and the far away." Media can also focus society's attention, raise personal and national aspirations, and create a climate favorable to development, in Schramm's view.[20]

There are also a number of technological changes which will cause television to grow even further. The most spectacular of these is the communications satellite. India, Iran, Indonesia and Brazil are among the nations planning to launch satellites and to use them in part for educational television. Progress continues to be made in direct broadcast technology, which will allow television signals from the satellites to be received by attaching oversized antennas to regular television sets. This will eliminate the need for costly ground relay stations. Whether one thinks educational television through satellites is a wise allocation of resources or not, the technology seems imminent, and is

[20] Wilbur Schramm, Mass Media and National Development (Stanford: Stanford University, 1964), p. 127.

a media channel which nonformal educators should be prepared to program.

In addition, television by coaxial cable and television by tape cassette are under development. Entirely new technologies for producing television screens, by use of liquid plasma crystals, are also said to be around the corner. Although these technologies have not yet become economical even in the developed countries, that does not mean that their future impact should be ignored by nonformal educators.

These changes should be seen as reminders that television is a young technology poised on the edge of a number of technological breakthroughs, which will inevitably fuel the world-wide expansion of the medium. One cannot foresee the nature, the timing, or the specific impacts which they will have. Will there be a drastic lowering of the cost of television receivers and power requirements analogous to the transistor revolution in radio? Will cassette TV mean cheap distribution of large varieties of taped programs through semi-urban and rural areas of developing countries?

Whatever specific forms the coming changes in the technology of TV should take, the television medium seems destined to play an increasingly important function in

the world's communications and educational systems. Nonformal educators should prepare for television's expansion by accumulating experience with the medium, by discovering in what contexts, for what objectives, and by what methods television can promote learning.

If this is done, nonformal education will be in a position to play a role in the expansion of television. By demonstrating what they have done in the past with television, nonformal educators can lay claim to a portion of the expanding system, on behalf of their clients. Nonformal education simply cannot afford not to learn how to utilize television.

CHAPTER II

PHILOSOPHIES OF NFE, AND THEIR IMPLICATIONS FOR THE USE OF TELEVISION

Probably the broadest and most broadly accepted definition of nonformal education was written in 1973:

> . . . any organized educational activity outside the formal system--whether operating separately or as an important feature of some broader activity--that is intended to serve some identifiable learning clienteles and learning objectives.[1]

The above definition accords equal legitimacy to any program which can fit within its wide limits. It provides a broad framework, within which the writer will define the attributes of NFE-TV. However, for the present purposes, such a definition must be seen as a mere starting point in the quest for the types of values, contents, communications styles and strategies which NFE-TV should embody. The above definition is an attempt at a value-free definition of nonformal education.

However, for the purposes of exploring variables relating to the television medium, and the educational environments in which it is to be used, it is helpful to have at hand value-laden definitions of nonformal education, of learning, of the nature of man. These lend a perspective which is helpful in asking what kinds of objectives

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[1]Philip Coombs, New Paths to Learning (Essex, Ct.: International Council on Education and Development, 1973), p. 11.

NFE-TV should have and what kinds of procedures should be employed in order to achieve them.

Such points of reference are offered by three main figures in the field of nonformal education: Philip Coombs, Paolo Freire, and Ivan Illich. In Coombs' view the world's education problems are best left in the hands of professional educators. Nonformal education is a new tool to be perfected by educational planners. Paulo Freire believes that the only genuine nonformal education involves ending the authoritarian role of the educational professional and fostering liberation from oppression through a dialogue between equal partners in the educational process. Ivan Illich feels that legitimate nonformal education will arise spontaneously when all vestiges of formal education are done away with, and when learning comes under the complete control of the learner. Each of these definitions of nonformal education has direct implications for the production of educational media materials for nonformal education. These three main value positions will be developed at some length in order to create a background against which to consider cases of television in education in less developed countries.

Nonformal education in less developed countries is not a new phenomenon. Human beings in all societies learned from each other long before the organization of schools. What is very new, however, is the interest of

international educators in the diverse learning activities which take place beyond the confines of the formal education system.

Until the late 1960's, the term nonformal education did not exist. The world's programs in vocational training, community development, agricultural extension, and family planning were largely beyond the purview of the international development educator, whose main interest was in comparing diverse formal education systems and their clients.

The people in less developed countries who are outside the formal educational systems can no longer be ignored by educators. Indeed, their poverty, their malnutrition, their unemployment represent direct challenges to the development educators. In the few years since the invention of the term nonformal education, our conception of the role, the responsibility and the very nature of education in the world has been challenged. Our notions of what populations deserve education, the objectives of education and the means and media for education have undergone dramatic change.

Such basic changes in the nature of a field of human endeavor as important as education do not come about calmly nor on the basis of rational judgment alone. The emergence of new perceptions, values and ideologies have played an important role in this hasty process. Inevitably, the explicit reasons behind such changes in thinking have

become obscured.

As the field of nonformal education has moved from general considerations to more practical ones, the implications of such ambiguities become problematical. When deciding what types of materials and media should be utilized and in what manner in the design of a given nonformal education enterprise, it is important to know the basis of conflicting recommendations from the literature. Paolo Freire, for example, objects to the use of any primers in literacy training.[2] Philip Coombs, on the other hand, deplores nonformal education's tendency to fail to provide simple reading materials to literacy students.[3] Are these contrasting conclusions based on empirical evidence, ideological fervor, or value positions? On what basis should the nonformal education practitioner decide between practical options suggested by different writers in the field?

The first aim of this chapter will be to identify and trace the emergence of the basic facts, concepts and values which have shaken our previous understanding of the nature and scope of education, and which have occasioned the development of nonformal education as a field of professional inquiry. The second aim will be to review some

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[2]Thomas G. Sanders, "The Paulo Freire Method" (No place: mimeographed, June 1968), p. 6.

[3]Philip Coombs, New Paths to Learning, p. 63.

of the current practical issues confronting nonformal education. The third aim will be to consider what the literature can tell us regarding the uses of media for nonformal education.

The Development of Nonformal Education Ideology

The systems approach

This history of nonformal education can be viewed as a succession of major books on education and the reactions to them. This is a particularly fruitful approach for identifying major concepts and the values that underlie them. Another reason for taking this approach is that it lends itself to a juxtaposition of the opinions and priorities of the major writers on the field.*

In order to explain the main concepts of the field of nonformal education, this chapter will concentrate on the impact of four main books, which emerged between the years of 1968 and 1972. The World Educational Crisis took a technocratic view of the situation, concluding that the world's educational systems badly needed overhaul. Deschooling Society advocated dismantling the world's formal edu-

*A final reason is that a more conventional review of nonformal education literature has just been completed in the Center for International Education. There is no reason to duplicate this well-done survey: Arlen Etling, "Characteristics of Nonformal Educators," Doctoral Dissertation, University of Massachusetts, Amherst, 1974.

cation systems because of their intrinsic inability to provide meaningful education. Pedagogy of the Oppressed offered a philosophy and method for educating the oppressed masses of the world, whom formal education had failed to help. Finally, the Faure Commission Report, entitled Learning to Be, which was published in 1972 by UNESCO, synthesized these and other critiques in language general and positive enough to not offend the member states of that body.

If historians come to view the Faure report as the end of the "ideological" phase of the nonformal education movement, they may well view the publication of The World Educational Crisis as its start. For it was in that book that the former director of the International Institute for Educational Planning, Philip Coombs, took stock of the world's educational situation in a comprehensive way.

It was Coombs who first disseminated to a broad professional audience the dimensions of the world's educational problems. It was Coombs who pointed out the interrelationships between them. It was Coombs who pointed out that parents everywhere were demanding ever more formal education for their children while the economies of nations were unable to employ even the existing number of educated youths. It was he who pointed out that formal education was often producing graduates with knowledge irrelevant to their situation and useless to employers.

It was Coombs who linked these phenomena to the rising costs of education and stagnant productivity of teachers.

To deal with this situation, Coombs recommended a focus on the relationships of the components of educational systems. These relationships should be brought into line, and the relationships of educational systems to the societies they serve should also be rationalized. Secondly, innovation calculated to achieve needed adjustments should be promoted in all aspects of the systems.

To reach educationally deprived populations he recommended "communication by radio and television of excellent teaching" and "extension of these means of educational services to new clients previously unserved."[5]

An especially important task for the developing countries was to "bring to the vast numbers of farmers, workers, small entrepreneurs and others who have never seen the inside of a formal classroom--and perhaps never will--a spate of useful skills and knowledge which they can promptly apply to their own and their nation's development."[6] These were the tasks awaiting nonformal educators.

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[5]Philip Coombs, The World Educational Crisis (New York: Oxford University Press, 1968), p. 135.

[6]Ibid., p. 142.

The main value assumption in Coombs' book can be found in the subtitle of the book: A Systems Analysis. In Coombs' view, the world's educational problems are not primarily pedagogical, political or economic in nature. Rather, the world's educational crisis involves management problems of systems which are out of tune because they have not been diagnosed and treated as systems. Once they are viewed as systems, once indicators of performance are devised and monitored, the incentive will arise to improve the performance of these systems by application of corrective measures which act upon the system in logical and interconnected ways. Coombs uses the term "educational system" in a technical sense deriving from systems analysis and systems engineering. At the two ends of the system are the inputs and the outputs. Inputs include teachers, students, materials, finances, educational contents. Outputs include educated individuals and dropouts. The activities of the system are the processes performed upon the inputs in order to achieve the system's objectives. Rigorous logical analysis of these variables and their interactions is the clue to dealing with the world educational crisis.

Coombs defined his goal in writing the book in the following way:

> . . . to present a method for looking at an educational system not piecemeal, where every fact stands alone, but as a system, whose interacting parts produce their own "indicators" as to whether

the interaction is going well or badly.[7]

Furthermore, Coombs expressed the belief that analysis of measures of the system's performance could lead to educational reform strategies which could improve the performance of these systems:

> We firmly believe that the world crisis in education can be overcome--if: if the people concerned candidly and systematically diagnose their educational problems and plan their educational future in light of what they uncover in their self-diagnosis.[8]

Who are the people "concerned" with this world educational crisis? What types of people will devise and implement the educational strategies which Coombs recommends for correcting the performance of educational systems?

Coombs sees this as a task for professionals, for educational planners, well versed in the systems approach. This represents a second major value position on Coombs' part: that the major decisions regarding educational change are best left in the hands of the professionals who are trained to direct such change:

> the main hope for coping with this crisis lies, we believe, in the formulation of balanced national and international strategies, carefully geared to match all the large components of the crisis.[9]

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[7]Philip R. Coombs, The World Educational Crisis (New York: Oxford University Press, 1968), p. v.

[8]Ibid., p. 16.

[9]Ibid., p. 162.

At this point in Coombs' argument one may well ask who will balance national and international strategies, who will gear them to the components of the crisis, and indeed who will specify the nature of the crisis? A real strategy must be firmly founded in a broad consensus,

> which embraces diverse political, social and educational interests and enjoys especially the authentic enthusiasm and loyalty of numerous leaders of these diverse groups.[10]

The hard questions of whether governments and their peoples share interpretations and priorities which might allow for the building of such consensus are not seen as major concerns:

> Some nations, unhappily, may not yet be ready for such a strategy. They may not yet have attained the political, social, economic and administrative preconditions which are essential for building and pursuing a strategy of educational development or of economic or social development generally. Nonetheless, an effort to mount a strategy must be made even in such cases, because nothing at all can be gained while doing nothing, while the effort itself may help create the very preconditions for success that have been missing.[11]

Thus, the reform of a country's educational system is seen as primarily a technical matter. The effort to do so may be enough to help create the political, social economic and administrative preconditions for future successes in this endeavor.

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[10]Ibid., p. 163

[11]Ibid.

In addition, Coombs feels that the basic dimensions of the illness and the cure are the same for industrial countries and for third world countries. Coombs sees a great role for nonformal education in the third world where schooling covers the educational needs of smaller proportions of the population. As a planner, he is somewhat worried by the difficulty in controlling nonformal education activities. Specifically, he deplores the:

> lack of organizational means for bringing important forms of nonformal education within the purview of educational planning--since the latter has typically been confined to formal education and sometimes not even to all of that.[12]

The underlying assumptions of Coombs are worth repeating. First, Coombs feels that there are basic dimensions common to the world educational crisis as it manifests itself from country to country. These dimensions are best viewed through systems analysis of education's major components and their interactions. He further believes that these systems can indicate deficiencies in their own performance, and that trained educational professionals can monitor and respond to these deficiencies by intervention in the system. Coombs does not see any insoluble problems regarding the control of societies of education or of its subject matter. He also sees no reason for major disagreements between rich and poor nations on the conduct of education.

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[12]Ibid., p. 144.

Systematic media. Coombs also mentions some specific approaches to the use of media in education. He feels that, when they are used, media are usually simply superimposed on "like geologic strata on the bedrock methods and logistics that have prevailed for generations."[13]

This is due to the fact that most experimentation with media takes place on a small scale, on the fringe of a nation's educational system. Experiments are usually ad hoc, lacking the necessary evaluation components. For these reasons, media have not been integrated into the development of innovative and efficient learning systems, as Coombs would wish. Nonetheless, he feels that media have demonstrated their ability to have a significant effect on the quality, quantity and costs of education.[14]

It is also important to know how Coombs sees the communications characteristics of media. He refers to past experiments in educational innovation through media in the following way:

> communication by radio and television of excellent teaching, and of new and more up to date subject matter, and the extension of these means of educational services to new clients previously unserved, at much lower costs than by conventional means.[15]

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[13]Ibid., p. 113.

[14]Ibid., p. 117.

[15]Ibid., p. 135.

Coombs seems to see media as mere bearers of content. Good teaching is seen as a commodity which exists independent of media. Radio and television are merely means of delivering that commodity to more people, thereby lowering costs and upgrading the quality of the instruction received by people whose classroom teachers are not excellent. Other writers on media insist that the communications characteristics of a medium influence the nature of "excellent teaching" which should be provided over that medium. Marshal McLuhan went so far as to maintain that the medium is the message.

Coombs' more conservative approach to television programming is perhaps best summarized by Wilbur Schramm, who has been a colleague of Coombs' at the International Instutute for Educational Planning:

> The research seems to suggest that effective use of television grows out of attention to the basic requirements of good teaching rather than to any fanciness that might be peculiar to TV. The qualities that emerge from the research are qualities like simplicity, good organization, motivation, practise, knowledge of results, rest pauses, cues that direct the pupil to the essential things he is to learn, etc.[16]

It is also important to note that Coombs chooses to stress teaching a subject matter over the process of learning. To focus on the teacher rather than the learner

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[16]Wilbur Schramm and Godwin Chu, Learning from Television; What the Research Says (Washington, D.C.: National Association of Educational Broadcasters, 1967), p. 100.

is consistent with Coombs' basic value position that education is best left in the hands of the professionals. We will see this approach reflected in the educational television project in El Salvador. Subsequent writers on nonformal education will extend this strategy to include an adaptation of the instructional systems approach. We will also see these positions hotly contested by Paulo Freire, Ivan Illich, and their followers.

Education as liberation. In direct contrast to the pragmatic tone of Coombs' work, Paulo Freire's deeply philosophical Pedagogy of the Oppressed appeared in Portuguese in the same year of 1968. Freire was born in the impoverished Northeast of Brazil and lived and worked there in adult education until forced to leave his country the coup d'état of 1964 (Brown, p. 245). As a result, Freire's view of education was intimately linked to the extential problems of Brazil's poor, and far removed from the bird's eye view of the international planner or systems manager.

For Coombs' managerial mentality, Freire counters with a philosophical view of man as "an uncompleted being conscious of his imcompletion."[17] For Freire, the world is divided into oppressor and oppressed. The ultimate aim of education is the eradication of oppression through a

[17]Paulo Freire, Pedagogy of the Oppressed (New York: Herder and Herder, 1970), p. 27.

process of dialogue, reflection and action. Freire's educational clients are the oppressed of the third world. Educational planners and managers such as Coombs are considered oppressors:

> Propaganda, management, manipulation--all arms of domination--cannot be the instruments of their rehumanization. The only effective instrument is humanizing pedagogy in which the revolutionary leadership establishes a permanent relationship of dialogue with the oppressed.[18]

In its pure form, this relationship requires that the educational process take place in small groups on the community level. Initially, an interdisciplinary team of specialists diagnoses the particular problems, lifestyles, and vocabularies of the community in which the educational process is to be implemented. These insights emerge, in part from a series of from two to eight initial dialogue sessions led by the team in which the nature of man, as a creature who lives in both nature and human culture, is considered. Discussion of such abstract topics with illiterates is made possible through the use of visual "codifications" or representations of events taken to be generative of reflection and discussion.

From these dialogue sessions, there emerge a series of key words which participants have used, and which the interdisciplinary team has judged on the basis of their relevance to community problems and their lin-

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[18]Ibid., p. 55.

guistic attributes. These words are then used to teach literacy and to continue simultaneously the philosophical dialogue.

Dialogue is led or "facilitated" by the leader of the group, or "circle of culture." Central to Freire's approach is the leader's non-authoritarian role. Freire emphatically denounces the professional "banking" educator, who views knowledge as a commodity which can be "deposited" in the learner's head. Rather, education takes place through dialogue, wherein "codified" representations of reality are presented to learners through visuals and words. In this process, the learner's critical powers are stimulated to dialogue and later to "conscientization."

Conscientization, which derives from the Portuguese word conscientização or "consciousness raising," is the goal of all education, in Freire's view. However conscientization does not result from dialogue alone. Rather, it depends upon convergence of three factors, which are intimately connected to Freire's value position with regard to human nature, and to the nature of education.

By virtue of mental capacities unique among all creatures, man is capable of reacting and responding to his environment in dynamic ways. He exists because he exists in a situation and interacts with other humans and with nature in that situation. Realization that he does exist in a situation which can change and which, more

importantly, can change in response to his actions, is the prime prerequisite for conscientization.

A second ingredient in the process is critical reflection, or the capacity to think and to analyze one's situation. Man is capable of seeing contradictions and injustices in social, economic and political forces manipulated by the "oppressors." Nonetheless, these two factors are not enough in themselves to cause conscientization.

Reflection about the nature of one's situation without action to alter that situation is denounced by Freire as "verbalism." "Cultural action" is the process by which perceived contradictions and injustices are acted upon. In the process of conscientization, man works toward becoming more fully human. In the process both the oppressed and the oppressor are humanized.

Perhaps most startling to a professional educator like Coombs would be Freire's position with regard to social violence. Initially, one might be surprised by the mere fact that an educator would feel the need to mention violence in connection with the educational process. Nonetheless, when one talks of stimulating perception of social contradictions and injustices in third world countries, social conflict is quite a feasible outcome.

Freire states that violence is never initiated by the oppressed. Rather, it is an integral structural

feature of the system of oppression. The form of violence varies from physical to psychic violence, from beatings to institutionalized malnutrition to dehumanization; but it remains violence, and it remains the responsibility of the oppressor.

Freire goes on to state that if the oppressed respond with violence, they are not to be blamed:

> Consciously or unconsciously the act of rebellion by the oppressed (an act which is always or nearly always as violent as the initial violence of the oppressors) can initiate love. Whereas the violence of the oppressors prevents the oppressed from being fully human, the response of the latter to this violence is grounded in the desire to pursue the right to be human.[19]

Whereas this scheme may have a mechanical and simplistic sound on the abstract level, its implications are more difficult to deal with in concrete instances. In the case of Chile, where Freire's philosophy and techniques were most recently applied, a primary justification given by the military coup d'état was illegal and violent acts by the peasants under the instigation of forces allied with the popular unity government.

The other well-known instance of the application of Freire's methods was in the northeast of Brazil. That experiment was also terminated in repressive violence. Does this repressive violence demonstrate the correctness of Freire's analysis? Or would Coombs be correct in con-

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[19]Ibid., p. 42.

demning the inappropriateness and impracticability of tying educational practise to revolutionary ideology?

In less spectacular ways other questions regarding the practicality of Freire's approach may be raised. Can one realistically expect teams creating circles of culture to lead discussions on such an impassioned subject in truly non-manipulative ways? In cases where the immediate political stakes are high, non-manipulative leadership may be impossible.

There is evidence that during the Allende years in Chile, the practitioners of Freire's methods tended to utilize education for their own partisan, short-term political ends. A follower of Freire wrote, with some sadness, that only one in five illiterates would sign up for the circles of culture. Many of these failed to attend classes. Those who did attend, came with strong individualistic motivations, and with more interest in technical skills than in conscientization.

> The professors began the program with high ideals of using the psycho-social method of Freire (some of them had been his students). They expected that the workers would on their own come to recognize the evils of the capitalist regime in Chile and the need to promote solidarity among workers. Unfortunately, some of the "unenlightened workers" resented the political dialogues promoted by the professors, and threatened to strike unless the political content was reduced and another course in advanced technical skills added.[20]

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[20]Noel F. McGuinn, "The Psycho-Social Method of Paulo Freire," in Inter-American Seminar on Literacy in Social and Economic Development (New York: World Education, Inc., 1973), p. 12.

This case of "critical action" by the oppressed against the liberators serves to dramatize the difficulties in implementing Freire's thought. It also illustrates how the personal values of the leaders may outweigh rational diagnosis of learners' perceived needs.

Liberating media. Freire has often stressed his belief in the importance of media in education. In a seminar at Fordham University he once remarked, "When working with the conscientization process, a visual aids approach is usually more 'problem-solving' than 'banking' in its approach to knowledge. It is more respectful to the learners."[21] In Pedagogy of the Oppressed, he wrote of the possibility of creating "codifications" for the auditory, visual or tactile channels. Furthermore, such codifications could be simple or compound, by which he must have meant audio-visual.

Freire went on to suggest a variety of possible media for use in conscientization: audio tape, newspapers, books. He suggests that brief dramatizations could serve as codifications of reality, as long as they depict only problems and no solutions.[22] These are all suggested as alternatives to the slides which he used in his own work in Chile and Brazil.

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[21] Paulo Freire, Seminar Session V (New York: Fordham University, February 29, 1972). Mimeographed notes.

[22] Paulo Freire, Pedagogy of the Oppressed, p. 114.

Freire's circles of culture in Brazil typically began with discussion of ten slides which represented various situations. For example, the first picture in the series shows a farmer with his hoe surrounded by a house, a well, a tree and a pig. Participants are asked to name what they see; subsequent questions are: "Who made the well?" "Why did he do it?" "What materials did he use?" "Who made the tree?" The ensuing dialogue is intended to convey the message that man is a creature of nature, who creates culture through his acts. With culture, man can control his own life.[23] Each picture in the series is a codification, in the sense that an existential situation has been represented for interpretation by the members of the circle of culture. Freire lists two main principles for the creation of codifications, which might be considered the central tenets of his theory of media.

First, the situations represented must be familiar to the individuals whose "thematic universe" is being dealt with in the educational process. This is because the purpose of Freire's educational process is to help individuals to critically reflect about and then take action to change their life situation. To deal with situations that were not familiar and important to the indi-

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[23]Cyntha Burns, "Literacy in Thirty Hours: Paulo Freire's Method," The Urban Review VII (July 1974), p. 247.

viduals in the circle of culture would be at best a waste of time.

Secondly, Freire states that the thematic nucleus of the codification should be neither overly explicit nor overly enigmatic. The former would be mere propaganda eliciting no real participation (in Freire's terminology, no decoding) from the learner beyond stating the obvious predetermined message. The latter would be to run the risk of presenting a puzzle or a guessing game.[24]

Thirdly, the codification should be constructed so as to have a "thematic fan" or an ability to open into other related themes for discussion. These are the main principles of Freire's approach to what the technocrat would term "media software production."

Freire states that codifications have their effect as learners begin to break down the picture into its components. After perceiving them as separate components, they begin to perceive the interaction between components. Remembering having been in situations similar to the codified situation, they begin to reach a "perception of their previous perception."[25]

Thus, we see that Freire has a great appreciation of the visual media for their ability to make an abstract

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[24]Paulo Freire, Pedagogy of the Oppressed, p. 107.

[25]Ibid., p. 108.

situation concrete and understandable to the illiterate. He is also aware of the possibilities offered by audial and audio-visual media, although he has not worked with these media. Freire refers to the possibility of using filmstrips, posters, newspapers, audio tapes and compound codifications using two channels (presumably the audial and the visual).

He feels that media are genuinely effective only if they base themselves in situations that are real to the learners, and if they present these situations as problems to be interpreted, discussed and acted upon by the learners. To present a solution to such a situation would be to engage in propaganda instead of education.

Education as deschooling. Two years after the writing of Freire's major work, there appeared a book which seemed to complement Freire's revolutionary notions on pedagogy. In Deschooling Society, Ivan Illich concentrated on the oppressive function of formal educational institutions in the world. Like Freire, Illich also talked of liberation and of basic changes in human nature in relation to the process and goals of education.

> I want to raise the general question of the mutual definition of man's nature and the nature of modern institutions which characterizes our world view and language.[26]

Analysis will reveal that Illich defines educational

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[26]Ivan Illich, Deschooling Society (New York: Harper and Row, 1970), p. 2.

solutions in modern and pragmatic terms, rather than in the timeless and philosophical terms of Freire.

If there is a question regarding the degree of overlap between Illich and Freire, there is no such question with regard to Coombs. Illich sees modern bureaucratic institutions as his chief villains and those who run them as his chief adversaries. Modern institutions deal with the management of systems. People who analyze and tune the performance of systems are called operations researchers. And Illich's view of operations research are very explicit:

> Operational research now seeks to optimize the efficiency of an inherited framework, a framework which is itself never questioned. This framework has the syntactic structure of a funnel for teaching packages. The syntactic alternative to it is an educational network or web for the autonomous assembly of resources under the personal control of each learner. This alternative structure of an educational institution now lies within the conceptual blind spot of our operational research.[27]

While Coombs concentrates his vision on the requirements of the overall system, as they have been defined by educational planners, Illich concentrates his attention on the needs of the individual learner. "Man has become the plaything of scientists, engineers, and planners," he laments.[28]

For Illich, man's enslavement is a relatively

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[27]Ibid., p. 70.

[28]Ibid., p. 107

recent event, due to the increase in the powers of science, technology and bureaucracy. Freire implies that man has always been afflicted by the condition of dehumanization deriving from oppression. Metaphorically, Illich refers to Prometheus' theft of fire from the gods as a symbolic beginning of the process whereby man began his own degradation and dehumanization:

> To the primitive the world was governed by fate, fact and necessity. By stealing fire from the gods Prometheus turned facts into problems, called necessity into question and defied fate. Classical man framed a civilized context for human perspective. He was aware that he could defy fate-nature-environment, but only at his own risk. Contemporary man goes further; he attempts to create the world in his image, to build a totally man-made environment and then discovers that he can do so only on the condition of constantly remaking himself to fit it. We must face the fact that man himself is at stake.[29]

Illich sees mankind's loss through the contemporary man-made environment as deriving from his dependence upon modern institutions to define and solve his problems for him. "This process of degradation is accelerated when nonmaterial needs are transformed into demands for commodities."[30] A prime example of the translation of nonmaterial needs into commodities is the monopoly enjoyed by schooling in education. Learning is seen as a result of teaching by certified professional purveyors of knowledge. Knowledge is measured, graded, and certified.

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[29] Ibid., p. 107.

[30] Ibid., p. 1.

Advancement in society is according to one's ability to manipulate the institutions of schooling to one's own advantage. Illich sees this feature of schooling as being present in all countries, be they fascist, democratic or socialist, rich or poor.

Once we have learned to need school, all our activities tend to take the shape of client relationships to other specialized institutions. We lost our independence, and allow these institutions to reduce our freedom to choice among a few packaged commodities developed with institutional needs in mind. Illich contends that the institutionalization of people's needs and values inevitably leads to "physical pollution, social polarization and psychological impotence: three dimensions in a process of global degradation and modernized misery."[11]

Illich sees schools and other modern institutions as the culmination of the Promethean tradition, of attempting to control reality, of using technology to make the world predictable. Having begun with the stealing of fire from the gods, this tradition ends in the creation of a man-made environment, which degrades man into a consumer of oppressive products.

Prometheus' brother, Epimetheus, married Pandora in order to bring hope into the world. However, from Pandora's box there escaped the evils of the world, with

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[11] Ibid., p. 1.

hope remaining in the box. What Illich foresees is the re-emergence of human activity based on Epimethean hope:

> We must rediscover the distinction between hope and expectation. Hope in its strong sense, means trusting faith in the goodness of nature, while expectation, as I will use it here, means reliance on results which are planned and controlled by man. Hope centers desire on a person from whom we await a gift. Expectation looks forward to satisfaction from a predictable process which will produce what we have the right to claim. The Promethean ethos has now eclipsed hope. Survival of the human race depends on its rediscovery as a social force.[H]

Illich feels that recent realizations about the finiteness of the earth, about the inadequacy of schooling and other institutions make it possible for such a rediscovery to occur. He calls for the disbanding of oppressive institutions, such as schools, and the creation of new institutional networks which will respond to the needs and motivations of individuals. First, reference services could link learners to educational objects which fit their learning needs. Books, games, films, programmed instructional packages would be accessed by these services. Secondly, skill exchanges would encourage people possessing skills to transfer those skills to others. This would take place without any sanctioning or certifying body. Demonstration of the ability to perform a skill would be the criterion for jobs requiring that skill. Thirdly, peer matching is suggested to enable contact between people of similar backgrounds, ages and in-

[H]Ibid., p. 105.

terests. Finally, a role for professional educators is seen, although not clearly spelled out. They are seen as facilitators and managers of the educational process.

It is apparent that all the above practical proposals reflect a significant decrease in the amount of centralized control over the process of human learning in society. This reflects another basic value position taken by Illich.

> In school we are taught that valuable learning is the result of attendance; that the value of learning increases with the amount of input, and finally, that this value can be measured and documented by grades and certificates. In fact, learning is the human activity which least needs manipulation by others. Most learning is not the result of instruction. It is rather the result of unhampered participation in a meaningful setting."

Deschooling media. Are educational media, particularly the highly centralized medium of television, compatible with Illich's view of learning as "unhampered participation in a meaningful setting"? Illich feels that media can be oppressive or liberating depending upon who controls them, and how they are programmed.

Illich's position on how learning materials could be made in non-oppressive ways crystallized in a later work entitled Tools for Conviviality. Educational media must be used in "convivial" ways, if they are to be useful. A quotation from that work can help define the type of media use which Illich would approve of:

"Ibid., p. 39.

> Tools foster conviviality to the extent to which they can be used by anybody as often or as seldom as desired, for the accomplishment of a purpose chosen by the user. The use of such tools by one person does not restrain another from using them equally. They do not require previous certification of the user. Their existence does not impose any obligation to use them. They allow the user to express his meaning in action.*

Illich has cited a convincing example of the difference between convivial and oppressive tools from the realm of educational media. In Deschooling Society, he notes that all Latin American countries now have television, which he considers to be an oppressive tool, in its present form. Decisions as to what programming will be created and broadcast are made centrally by either businessmen seeking the largest possible audience or by educators seeking to teach school curricula. In neither case do the clients determine how the tool will be used.

On the other hand, Illich maintains, a highly convivial tool could have been delivered into all the communities in Latin America for the same investment as has been invested in television. According to Illich, the same level of resources could have provided every fifth adult in Latin America with a cassette tape recorder. Every community could have a virtually infinite library of pre-recorded cassettes, and ample quantities of blank tape cassettes. In this manner, illiterates as well as literates could not only control their own learning of

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*Ivan Illich, Tools for Conviviality (New York: Harper and Row, 1973), p. 22.

existing materials, but could record, preserve and disseminate their own information.

Surprisingly, Illich is not willing to rule out television as a potentially convivial tool:

> Not even television must be ruled out--although it permits very few programmers to define what the viewers may see--as long as the over-all structure of society does not favor the degradation of everyone into a compulsory voyeur. The criteria of conviviality are to be considered as guidelines to the continuous process by which a society's members defend their liberty.[33]

Illich seems to be suggesting that if the programmers of television base their decisions on the desires and needs of their viewers, television can be a convivial tool.

A synthesis of ideology. When a UNESCO commission in 1972 summarized recent trends in thinking about education in the world, it did not shy away from the hard issue which had been Freire's central concern:

> We may be heading for a veritable dichotomy within the human race, which risks being split into superior and inferior groups, into a masters and slaves, super men and sub men. Among the risks resulting from this situation would be not only those of conflict and other disasters; . . . but the fundamental of dehumanization, affecting privileged and oppressed alike. For the harm done to man's nature would harm all men.[34]

Freire might have been somewhat upset, however, by the commission's failure to recognize a dichotomy in the human race as an historical or a current problem and their

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[33]Ibid., p. 24.

[34]Edgar Faure, et al., Learning to Be (Paris: UNESCO, 1972), p. xxi.

desire to cast it as a possible problem off somewhere in the future. The weakness of the UNESCO report may be its tendency to understate problems, or to place them, as in this case, in semi-hypothetical terms so as to be more palatable to the sensibilities of member nations.

Nonetheless, the report has one great strength. While it may dilute the thought of major figures in the development of nonformal education ideology, it also performs the valuable function of synthesizing their ideas. The first part of this chapter has stressed the differences in values and beliefs which underlie the diagnoses of these major figures. This section on the Faure commission will be the vehicle for correcting that impression, for showing some of the potential areas of overlap between the three major figures which have been covered.

Other passages from the report sound more in sympathy with Coombs' notion of the education as an enterprise which can be improved merely by systematization and management:

> The effects of education are ranging further and further in society, and we have tools to make short medium forecasting a very different thing from intuitive speculations. Thus, we have not the right to either improvise or to limit ourselves to narrow pragmatism. We must think clearly in exploring new paths for the future."

"Ibid., p. 111.

After beginning in a technocratic vein, the above quotation seems to mildly scold Coombs and his fellow planners, and to give a nod in the direction of Illich.

In fact, the commission consciously draws on the contributions of all three, in the belief that elements can be drawn from each in the creation of new variants of education in the world:

> The position adopted by the commission involves dialectical approach comprising improvements to be made to existing systems and on the other hand alternatives. The commission stands apart from the limited approach of reformers of existing structures and from those who dream of some radical structural upheaval, flinging themselves into the unknown without considering the realities and possibilities.[28]

Considering the realities and possibilities, the commission does come up with a thrust which does have some overlap with Coombs' desire for a more effective system, with Freire's desire for humanization through the end of oppression, and with Illich's desire for deschooling. Commitment to education as a lifelong activity with many variants and the notion of a learning society are adopted. Another important component of the commission's position is democratization of education and of political life. The statement that "Education in democracy can't be separated from the practise of politics"[29] represents a concession to, though not entire acceptance of, Freirian dogma.

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[28] Ibid., p. 176.

[29] Ibid., p. 102.

> Democratization of education will only be possible if we succeed in dumping dogmas of conventional pedagogy. This means getting rid of the concept of a model student who serves as a reference.[40]

Thus, democratization of education cannot mean a mere expansion of the existing approaches to education, but must be grounded in a new conception of diversity in human learning styles:

> Pedagogy could improve if it were to acknowledge two fundamental weaknesses 1. ignoring the subtle and complex workings of a personality 2. failing to allow for infinite diversity of individualities, temperaments, aspirations and vocations.[41]

The commission felt that a type of education which placed less emphasis on certificates and standardized examinations and more emphasis on the promotion of learning in all its diverse forms could help people search out and develop ways of dealing with the changes of the modern world:

> It has to play the part of antidote to the many distortions within man and society. For democratic education must be able to provide a remedy to frustration, to the depersonalization and anonymity in the modern world, and through life-long education, reduce insecurity and enhance professional mobility.[42]

The publication of Coombs' World Educational Crisis may have triggered the "ideological phase" of nonformal education. It was followed by two works, basically ideological in nature, which had major impacts upon the thinking of the world's development educators.

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[40] Ibid., p. 75.

[41] Ibid., p. 75.

[42] Ibid., p. 104.

By the time the Faure commission report was published, thinking in education had come a long way in a short time. Coombs had referred to changes in the world impacting upon the world's educational systems. His orientation was basically reactive. The crisis in education required that education respond to a changed world. The Faure commission saw education as a potentially dynamic element, initiating and preparing people for change:

> Education must recognize itself for what it is: it may be the product of history and society, but it is not their passive plaything. It is an essential factor in shaping the future, particularly at the present moment since, in the last resort, education has to prepare mankind to adapt to change, the predominant characteristic of our time."

Case Studiers, Classifiers and Practitioners

There is a distinct change of tone in the literature on nonformal education produced since 1972. There is less emphasis on philosophical value positions and more tendency toward pragmatic classification and case study. There is less tendency to see nonformal education as a distant ideal and more tendency to view nonformal education as it has existed in specific programs. This can be seen in the work of two principal groups, the International Council for Educational Development (ICED), headed by Philip Coombs, and the Program of Studies in Non-Formal Education at Michigan State University (MSU). The litera-

"Ibid., p. 104.

ture produced by these groups, represents efforts to think practically about how nonformal education values can be implemented in the real world. It forms an appropriate transition into the final section of this chapter which will consider the practical question which constitutes the main focus of this thesis: when and how to utilize television for nonformal education.

A major concept of the classifiers and case studiers is that nonformal education exists not merely for education's sake but also as a major new component in development. Sidney Grandstaff of MSU urges that varieties of nonformal education be developed as responses to the hard lessons of the "first development decade" of the 1960's. Nonformal education is intimately connected to realization of the insufficiency of the economic growth approach to development according to this point of view. The experience of the 1960's taught that the problems of the less developed countries in health, nutrition, housing, unemployment and poverty were far more intractable than had been foreseen. The benefits of economic growth failed to "trickle down" to the people most affected by these problems."

Grandstaff saw this expanded concept of development as a necessary outgrowth of changes in the conscious-

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"Sidney Grandstaff, Nonformal Education and the Expanded Concept of Development (East Lansing: Michigan State University, 1973).

ness of third world people, as well as of the failure of the economic growth approach to solve the third world's problems. In place of the traditional and fatalistic peasant, he saw a new man, with an idea of what life could be, with aspirations to improve his life, and with some exposure to egalitarian and socialist ideas. These changes could become the basis of a broad variety of new educational efforts to deal with problems which purely economic approaches had not been able to solve.

Based on this reinterpretation of development, a number of dimensions were outlined which nonformal education planners would have to consider: 1. nonformal education programs should have a high potential for broad distribution of whatever rewards were promised; 2. there should be provisions for decentralized planning and for alteration of materials at the level of use; 3. solid linkages to real employment opportunities should be provided; 4. there should be recognition of and response to the aspirations of participants; 5. there should be a clear basis for programs in human needs; 6. programs should be of limited duration with frequent completion points; 7. costs should be low.[45]

Already in this attempt at drawing implications for nonformal education's development from the expanded

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[45]Ibid., p. 4.

view of development, Grandstaff has broken nonformal education as an enterprise into a number of dimensions. He has made decisions regarding actions taken on each of those dimensions. However, at this point, he is still very much within the mode of setting nonformal education against formal education.

In a subsequent paper, Grandstaff modifies his position with regard to dimension four. He states that in most situations it may be appropriate for the design of a program to emerge from the educational process undertaken with the client population:

> Given the flexibility and responsiveness of NFE, it is almost always possible to go into the situation in which education is to be introduced, and, working with the human and material components of that situation, build an educational design "on site" allowing the design to emerge from and within the educational activity itself.[46]

He recommends this approach when the "learning and valuational configurations of the client population are somewhat obscure."[47]

On the other hand, he does not maintain that design must take place in that manner if the resulting educational activities are to be considered truly nonformal. Rather, he stresses the choice before the nonformal education planner, which depends upon the planner's knowledge of the educational context and the goals of the

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[46] Ibid., p. 65.

[47] Ibid., p. 65.

educational program under consideration:

> while there is no clear reason to hold, as some are inclined to do, that only emergent planning is suitable to NFE, the choice should be made carefully.[48]

Grandstaff sees the derivation of goals and objectives as situational variables.

Axinn of MSU sees methods as situational variables as well. He defines three basic means of bringing about behavior change:

> force, in which fear is the motivating factor, manipulation/persuasion, in which rewards for desired behavior are the motivator, and facilitation, in which learning resources are made available, and learners themselves are responsible for motivation and learning.[49]

This is not to say that anyone in the MSU group sanctions force as a legitimate technique for nonformal education. But there is evidence that they see the utility of manipulation/persuasion. This is evident in the group's acceptance of the diffusion of innovation model. In a paper by another member of the same group, the example of family planning education is cited:

> For a family planning program the learning objectives would not be specified as understandings or as knowing about birth control techniques, but as the composite of understanding and behavior changes that represent the actual adoption and practise of family planning procedures.[50]

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[48] Ibid., p. 65.

[49] George H. Axinn, Toward a Strategy of Interaction in Nonformal Education (East Lansing: Michigan State University, 1974), p. 43.

[50] Ted Ward, et al., 'Planning Effective Learning

Adoption of a packaged innovation is clearly in the area of the manipulative/persuasive. This would not be considered valid nonformal learning by either Freire or Illich. The mere notion that innovation consists of packaged solutions to problems which the learner either adopts or fails to adopt is incompatible with Freire's and Illich's value position with regard to the nature of education. For the MSU group, it is an option which may be applied in some situations.

In another publication, the group describes an application of the instructional systems development approach to the task of deriving a learning system for a nonformal education project: The task is broken down into ten problems:

1. specify the learning to be achieved
2. describe the target population
3. specify instructional tasks
4. specify support and management tasks
5. specify level of performance to be learned
6. prepare instructional materials
7. train human resources
8. design evaluation procedures
9. operate the system
10. evaluate the learning.[51]

There is a difference of emphasis from the customary application of the systems approach, however. The authors strees the importance of studying the target popu-

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in Nonformal Education: A Systems Approach," in Study Team Reports: Effective Learning in Nonformal Education, ed. Ted Ward (East Lansing: Michigan State University, 1974), p. 84.

[51] Ibid., p. 80.

lations in terms of major factors relating to learning: 1. motivations, value systems, and reward systems within which they work and live; 2. cognitive style and capabilities in terms of previously acquired skills; 3. their expectations about learning and the pedagogical environment.

Guidelines contained in the same document recommend that nonformal education programs develop instructional materials designed specifically for the dominant characteristics of the learning styles and mental processes of the learners, that the learning be of practical use, and that the program be consistent with cultural and historical traditions of the client populations.[52]

Although it would be reassuring to Freirians and Illichians that these factors are taken into account, it is curious that the intended learning outcomes are to be defined before these aspects of the target population have been probed. If followed in sequence, these steps would seem to limit this approach to implementing, in a culturally and educationally sensitive way, learning objectives defined in advance above the community level. To Freire this would doubtless seem a propagandistic rather than a dialogue-oriented approach to education. To Illich this would seem another instance of a non-convivial approach to education.

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[52] Ibid., p. 119.

The case studiers and classifiers have constantly stressed the variety of out of school education programs as they appear in the world. They have devised a number of systems for classifying out of school education. The most important decision they have made is to exclude from their concern unorganized forms of learning, even though they realize that this is perhaps the most prevalent form of learning in life:

> Informal education, the truly lifelong process how every individual acquires attitudes, values, skills and knowledge from daily experience and the educative influences and resources of their environment, from family and neighbors, from the mass media . . . unquestionably accounts for a very high proportion of all that any person even a highly schooled one accumulates in a lifetime.[51]

The above author found himself nonetheless confronted with a great variety of learning in the world's rural areas that was organized enough, did have identifiable enough objectives and clienteles to merit consideration as non-formal education. One means of classifying these experiences was to divide programs according to their content or learning objective. Coombs saw programs dealing with agriculture, with vocational skills and crafts, with leadership and civic participation, and with general education and culture.

In a later book, the same author divided rural

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[51]Philip Coombs, New Paths to Learning (Essex, Ct.: International Council on Education and Development, 1973), p. 10.

nonformal education programs according to their clienteles: persons engaged in agriculture, persons in nonfarm artisan and entrepreneurial activities. In this book the author also classed programs according to the basic learning methodology employed: the extension approach, the training approach, the cooperative self-help approach, and the integrated development approach.

Coombs lamented the narrow view taken by extensionists and their bureaucratic isolation from other support services necessary for development. The training approach was also criticized for its implication that outside specialized information represented sufficient change to promote rural development. The cooperative self-help approach was praised for its faith in rural people's ability to analyze and solve problems for themselves, given opportunities and encouragement.[9]

Coombs' greatest enthusiasm, however, was reserved for the integrated rural development approach, which combined all of the above. This approach saw as its end, not the importation of specialized information and technology, not mere grass roots education and action, but the combination of both in order to effect a transformation of the total economic, social, political, and cultural institutions of the rural areas.

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[9]Philip Coombs and Mangoor Ahmed, Attacking Rural Poverty: How Nonformal Education Can Help (Washington, D.C.: World Bank, 1974), p. 163.

Coombs demonstrates a tendency to prescribe as well as to classify. In addition to advocacy of the rural integrated development approach over the other approaches, he also recommends a specific "package" of basic attitudes, skills, and knowledge, which every young person in any society should receive, in order to be equipped for an effective and satisfying adulthood. He feels that "any society guided by democratic ideals must give high priority to securing this minimum at least for all."[55]

This package consists of several elements: 1. positive attitudes toward cooperation with family and one's fellow man, toward work and community and national development; 2. basic functional literacy and numeracy to the point of being able to handle market mathematics and simple informational bulletins; 3. a scientific outlook and elementary understanding of the processes of nature, as they relate to health, sanitation, nutrition, and other practical aspects of life; 4. functional knowledge and skills for raising a family and operating a household; 5. functional skills for earning a living; 6. knowledge and skills necessary for civic participation. Coombs specifies these content areas for basic education, since he feels that to remain at the vague level of stressing every person's right to an education does not encourage performance.

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[55]Philip Coombs, New Paths to Learning, p. 13.

Other less prescriptive classifications have also been proposed. For example, two authors at the University of Massachusetts chose to define the range of alternatives before nonformal education planners along a number of separate dimensions.[36] For example, with regard to goals and objectives, they see possible alternatives, ranging from civic education to moral education, or personal growth, or to agricultural training and recreation on the other hand. They do not prescribe which of these is more necessary to the minimum education of the rural man, but rather leave them as alternatives for students and planners to consider.

In like manner, they envisage learner characteristics as potentially homogeneous by age, sex, ethnic background, social status. They see potentially hierarchical or egalitarian relationships between the learners, depending upon the situation.

Learning methodology is another variable or dimension which is dealt with in a number of different manners. Learning may be discovery oriented, experience based, or on the other hand, based on information transfer, externally paced, and sequenced by non-learners.

Governance or control may vary in regards to general planning, to formulation of learning objectives,

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[36]David R. Evans and William A. Smith, "Nonformal Education: The Light at the End of the Tunnel," (Amherst: University of Massachusetts, 1972), pp. 16-17 (mimeographed).

development and utilization of learning materials, and to evaluation of learning. These functions may be in the hands of learners, concentrated at the top of the nonformal educative institution, or in the hands of a sponsoring body.

Rewards are another dimension which contains many possibilities. Recreation, personal growth, the learning itself, or practical applications of the learning are all possible rewards which nonformal programs may offer. Nonformal programs may even award certificates to certify their learning.

Other dimensions mentioned are institutional affiliation, financing, facilities, scheduling, and staffing characteristics. Along each of these dimensions, there is taken to be no single correct nonformal education approach. Rather, the choices made will vary with the nature of the situation in which nonformal education is to be conducted and the values of the participants in the planning process. This approach represents a response to the concerns raised by those who felt that the ideological fervor of some nonformal education writers might cause people to believe that all nonformal education possesses a heavy anti-schooling bias:

> "Nonformal" suggests that there is very little or no formal structure; it suggests a highly participative, non-hierarchical and spontaneous learning environment where all participants are both teachers and learners. . . . We do not, of course, deny that

> this definition might describe some nonformal educational activities accurately, but we do question whether it adequately describes all nonformal education activities. Some of the assumptions which underly this conception of nonformal education do not dovetail with the requirements of many skill training or political education programs throughout the world.[57]

Broadcasting for Nonformal Education

In discussing the role of media in nonformal education, one moves from a broad view to a specialized focus on an aspect of a nonformal education enterprise. One limits oneself to consideration of one of the many dimensions described above, specifically the learning methodologies dimension. One is talking about one area of a dimension which also encompasses content, and face-to-face learning style. One has to ask which media are most appropriate for the learner population, which objectives are realistic and useful for the media, and finally which media formats and communications styles are most appropriate.

The most emphatically made point in the literature is that media are not being utilized in nonformal education in anywhere near the degree they might be:

> We noted two serious gaps in the methods used by most of the 64 nonformal programs [studied]. One was the conspicuous failure to make use--or more than trivial use--of the large and often low-cost

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[57]John C. Bock and George J. Papagiannis, The Demystification of Nonformal Education: A Social-Psychological Paradigm for Comparative Study of Nonformal Education (Stanford: Stanford University, 1973), pp. 14-15.

> educational potential of radio, and of television where available . . . there is a tendency to think of these media as useful extras to be tacked on to conventional teaching arrangements rather than as central learning tools.[48]

In the literature there is consciousness of the utility of the media. Nonformal educators have simply not decided how they should make use of media:

> nations are becoming more aware that development requires popular participation, which the media can stimulate. The pressure of time, populations with obstacles of geography, shortage of trained people and limited economic resources, all require bolder strategies than those which rely primarily on the formal school structure and traditional instructional approaches. The question should no longer be one of whether technology and media are useful to nonformal education, or for that matter to learning systems in general, but rather how to use them effectively at a reasonable cost.[49]

The media are present in the less developed countries, and should be applied to developmental objectives. The Director of UNESCO's Division for the Use of Communication Media in out of school education, has deplored the urban concentration of media and domination by special interests. He recommends that nations plan for communications media as national resources rather than as the domain of privileged economic or political interests. The media should be used as "strategic tools of society"[50]

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[48]Philip Coombs, New Paths to Learning, p. 63.

[49]Henry T. Ingle, Communication Media and Technology: A Look at Their Role in Nonformal Education Programs (Washington, D.C.: Academy for Educational Development, 1974), pp. 5-6.

[50]Henry Cassirer, "The Significance of Communication Media in Out-Of-School Education," p. 8.

in attacking issues under conditions of change and mutation.

This concept is forcefully expressed in the General Education Law decreed by the revolutionary government of Peru:

> There can be no contradiction between the objectives of the educational system and the standards and values that are disseminated by the mass communication media. The extension of education presupposes adequate utilization of these media. . . . The state will assure that the communications media in all its forms will be utilized as instruments of national education.[61]

This is a particularly aggressive interpretation of the concept of media in service of national development goals. The strong centralist role promised by the state would, no doubt, be upsetting to Illich and Freire, both of whom prefer to see education controlled by those at the grass roots.

Given that media resources which exist should be applied to nonformal education, the next question becomes which media should be used to communicate to whom. In his study, Big Media, Little Media, Wilbur Schramm states:

> If there is a medium for nonformal education, it is radio. The reason for this is illustrated by Paul Theroux's study of rural radio in Uganda, in which he reported that whereas 87.8% of all the rural families he surveyed have no electricity, 86.3% have radios. In other words, radio is the one long-range, easily deliverable medium that over-leaps the commonest barrier to instruction

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[61]General Education Law, Decree No. 19326, Ministry of Education, Government of Peru, March 1972. Unofficial translation issued by USAID, Lima, p. 15.

in remote places.[62]

It is true that television, the other broadcast medium, does require electricity either in the form of wall current, or complex batteries or generators.[63]

It is also true that extending television beyond the areas where it has spread of its own commercial momentum has often proved difficult. In the famous Peace Corps television project in Colombia, maintenance of receivers in isolated areas proved to be one of the most difficult problems. As Wilbur Schramm noted in 1967:

> The technical requirement most often overlooked or underestimated is the maintenance of receivers. This requires a special organization and personnel, an adequate supply of spare parts and a quick and reliable means of communication and transport.[64]

In the Ivory Coast, receiver maintenance and battery purchase account for over one-third the annual recurrent budget for ETV.[65] A recent, late 1974 review of applications of media in nonformal education cite only two cases of nonformal education television programming originating in less developed countries. The reasons listed for the failure to exploit the television medium more extensively

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[62]Wilbur Schramm, Big Media, Little Media (Washington, D.C.: Academy for Educational Development, 1973), pp. 253-54.

[63]Ibid., p. 386.

[64]Stephen H. Grant, "Technology and Educational Reform: The Case of Ivory Coast," Instructional Technology Report (Washington, D.C.: Academy for Educational Development, October 1974), p. 3.

[65]Ibid.

were:

1. high costs
2. relatively small number of individuals owning receivers
3. available receivers primarily in the hands of those who have less of a need for nonformal education
4. difficulty in producing relevant and interesting programs for rural audiences.[56]

It is not this writer's purpose to challenge Schramm's claim that radio should be the major broadcast medium for nonformal education. Nor is it his purpose to promote the use of television beyond those areas where it can be practically and economically employed. It is his purpose, however, to propose that nonformal educators avoid a total rejection of television. The communicative potential of television has changed since the massive ETV projects of the 1960's were begun. The medium continues to change. It is bound to play an increasingly important role in world communications due to commercial expansion of broadcast TV, due to the use of TV cassettes, cable TV and communications satellites. As these technological breakthroughs emerge, nonformal educators should have already developed a familiarity with the medium and a capability for creating quality nonformal education software.

This may mean that, for the present, TV will be mainly a medium for urban nonformal education, with the exception of those areas where commercial momentum or

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[56]Henry T. Ingle, Communication Media and Technology: A Look at Their Role in Nonformal Education Programs, p. 12.

past ETV projects have taken the medium into rural areas. In El Salvador, Colombia, Ivory Coast, and other countries, past ETV projects have extended a television infrastructure into rural schools. These examples represent fine opportunities for nonformal educators. In El Salvador, for example, the ETV channel is severely underutilized during nonschool hours. The Ministry of Education wants to utilize this excess channel capacity for adult education, but possess neither the resources nor the know-how to produce quality NFE-TV programming.[67]

After it has been decided which medium will be applied in a given setting, one must ask how that medium is to be used, for what objectives and with what strategy, what formats and communications styles. Ironically, this question is generally given far less consideration than the question of what medium:

> A visitor from another small planet, unfamiliar with the atmosphere in which educational development projects come into being would be astonished to see how much of the resources of a typical project go into procuring expensive hardware and operating it, rather than into producing more effective software for less expensive hardware.[68]

In the Educator's Guide to Communications Satellite Technology, Kenneth Polcyn notes:

> All too often software, that is, the radio, tv, computer programs that must be developed for trans-

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[67]Personal interview with Ray San Giovanni, Education officer, USAID Mission to El Salvador, November 8, 1975.

[68]Schramm, Big Media, Little Media, p. xiii.

> mission is ignored or given low priority in system development. Software, the most important element in the communications system is the most difficult to produce and the most costly item of a system.[69]

Although regrettable, it is understandable how this occurs. As Wilbur Schramm put it:

> the enormous initial effort required to master the technique and technology of instructional television usually leaves all too little time and money for "software" needs, feedback for instructional television.[70]

Thus, with traditional professional television equipment, we find that software, the aspect of the operation which most affects the viewer and determines the effectiveness of the learning, may end up being underemphasized.

When the question of how to use the TV medium is raised, there are two basic responses. One point of view considers teaching over television as being not much different from traditional teaching. Wilbur Schramm's position on this point bears repeating:

> The research seems to suggest that effective use of television grows out of attention to the basic requirements of good teaching rather than to any fanciness that might be peculiar to TV. The qualities that emerge from the research are qualities like simplicity, good organization, motivation, practise, knowledge of results, pauses, cues that direct the pupil to the essential things he is to learn, etc.[71]

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[69] Kenneth Polcyn, Educator's Guide to Communications Satellite Technology (Washington: Academy for Educational Development, 1973), p. 50.

[70] Wilbur Schramm, Big Media, Little Media, p. 2.

[71] Wilbur Schramm and Godwin Chu, Learning from Television: What the Research Says, p. 89.

Much of the research to which Schramm is referring tests a content taught by a live teacher, compared with the same content taught by a televised presentation of the same teacher. This type of reserach has often failed to reveal any difference between "TV teaching" and live teaching. In 1962, for example, Schramm reviewed 393 experimental comparisons of television versus classroom teaching. He reported that 255 of these comparisons showed no significant difference.[7] This type of research has been attacked on methodological grounds:

> If on some measure, there would be "no significant difference" between the televised version of an orchestra and some mimeographed printed verbal rendition of the orchestra, it would tend to reveal more about the nature of the measure itself than about similarities of media. . . . The most dissimilar the comparative treatments [live and TV] become, as when the unique contributions of TV might be exploited, the more uninterpretable the results. The tighter the controls, the more rigid the imposed similarity, the less freedom in either the live classroom or the TV to exploit the natural advantages.[8]

Some educators actively oppose utilizing the visual communications capabilities of the television and view them as incompatible with the process of real learning: one author complains of "all the visual devices which we somehow feel obliged to use in producing a TV programme."[9]

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[7] Ibid., p. 9.

[8] Keith Mielke, "Media-Message Interactions in Television," Viewpoints 46 (Sept. 1970), pp. 23, 26.

[9] R.F. Clarke, "The Role of Radio and Television in Correspondence Education," in Mass Education, ed. by Lars-Olof Edstrom, et al., (New York: Africana Publishing Corp., 1970), p. 309.

The same author maintains that the better, more serious students suffer most when the visual communications powers of television are stressed.

> More sophisticated viewers often seem to get bored or irritated by too many incidental visual effects when they want to study. They prefer straight teaching. One reason for the producers' obsession with variety of effect may be the need to cater for casual viewers beyond the comparatively small numbers of serious students.[75]

Other writers have contended that as television goes out of the classroom and into nonformal education environments traditional teaching techniques, with their emphasis on cognitive learning, are no longer appropriate:

> As educational technology goes beyond traditional structures and missions, relevance of general areas such as mass communications (theories) become inescapable. As control over the receivers' environment decreases, sensitivity to interest and motivation increase. Sole concentration on a single effect, cognitive learning, becomes dysfunctional as multiple effects interact in an unrestricted environment.[76]

Other nonformal educators have responded with a call to apply media to other tasks than those of traditional cognitive learning:

> The use of communication media and technology in nonformal education should not be limited to solely dissemination of teaching-learning information in the strict sense of the word. Use media and technology for such tasks as motivation,

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[75]Ibid., p. 312.

[76]Keith Mielke, "Reviewing the Link Between Communications and Educational Technology," Audio Visual Communications Review, XX (Winter 1972), pp. 357-99, 393.

attitude change, reinforcement, community participation and sheer entertainment.[77]

A UNESCO document called for nonformal educators to use the media in order to "be with the times, and reach the heart as well as the intellect of the public."[78] The same author calls for "vertical communication down and up the social ladder."[79] Perhaps media will enable the people to reach the heart as well as the intellect of the elites. Horizontal communication between different sections of the population is called for to provide greater understanding among ethnic groups, urban and rural people, young and old cultural groupings or minorities.[80]

As was stated above, there has been very little experience and even less research concerning the question of how to use television for nonformal education. There should be little doubt that research is necessary. All our notions about the communications impact of television refers to developed countries, where people are accustomed to this medium as a major source of entertainment and information. On the other hand, as Wilbur Schramm pointed

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[77]Henry T. Ingle, Communication Media and Technology: A Look at Their Role in Nonformal Education Programs, p. 39.

[78]Henry R. Cassirer, "The Significance of Communication Media in Out of School Education" (Paris: UNESCO, 1971), p. 7.

[79]Ibid., p. 5.

[80]Ibid., p. 5.

out ten years ago:

> In developing countries, much of the media audience is new to media, and is unpredictable. Since traditional society maintains little contact between communities, groups within the potential audience grow up isolated and may show a variety of cultural differences.[81]

In addition to heterogeneous audiences, less developed countries have media producers who are generally middle-class urban professionals, who may be culturally and educationally different from their audiences.

Other authors have commented, however, that one cannot expect to communicate effectively with audiences in less developed countries until experience and research has accumulated:

> The anticipated new teaching methodology will not appear deus ex machina. It can be achieved by gradual accumulation of current practical experience, provided that this experience is carefully observed, recorded, and evaluated. Particular concepts, approaches, methods, techniques applied in communication projects have to be assessed and compared in terms of evoked motivation, interest, acquired knowledge, skills, changes in attitudes, and behavior, social effects, etc.[82]

Five overall strategies for media utilization have been characterized in a recent review of the literature on educational radio. These break down into two broad categories: those that attempt to organize the listening

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[81] Wilbur Schramm, Mass Media and National Development (Stanford: Stanford University, 1964), p. 173.

[82] Ignacy Waniewicz, Broadcasting for Adult Education: A Guidebook to World-Wide Experience (Paris: UNESCO, 1972), p. 95.

audience in one form or another in order to undertake activities coordinated with the radio broadcasts, and the open broadcast strategy, which makes no attempt to organize listeners.

Organized radio learning groups have existed both in formal and nonformal education. The Mexican radio-primaria, the radio schools of ACPO in Colombia, are two of the most often cited examples of such a strategy, in which the radio attempts to substitute for the trained teacher. This approach is also currently in use in Zaire, in Tanzania, and in China.[83]

Another radio strategy with a long history is the farm forum, originally began in Canada during the early 1940's, exported to India in the fifties, and to four African countries in the sixties. Regular weekly radio programs contain news, answers to listeners' questions, and presentation of one topic of interest to rural people for subsequent discussion by the listening group. The monitor who runs the listening group is ideally in contact with the broadcasters so as to feedback reactions of his group to the broadcasters.

It is interesting to note that the forums as originally conducted in Canada, had objectives reminiscent of Freire and Illich:

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[83]Emile G. McAnany, Radio's Role in Development: Five Strategies of Use (Washington, D.C.: Academy for Educational Development, 1973).

> Men of ordinary education can understand the world they live in. With knowledge they can exercise a more and more intelligent control over their social and economic environment.[90]

When UNESCO applied the model in India, the aims were stated in different terms: "Education requires personal, intensive and systematic study based on the active participation of those who are to be educated."[91]

Another strategy is termed "animation" or the participating group strategy. Deriving from a French group dynamics technique, it was first applied in Africa in the early sixties. According to McAnany, this strategy assumes that 1. communities must define and solve their own problems; 2. the social animateur should be as closely identified with the local community as possible; 3. his role is non-directive; 4. the role of information is in problem definition, not in communicating predetermined solutions. Community participation and social action is the goal. Feedback from the community is essential to this process.

One of the examples of this method which McAnany cites is the Movement for Basic Education in Brazil during the early sixties, with which Paulo Freire was associated.

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[90]Alex Sim, "Canada Farm Radio Forum," Fundamental Education IX (Paris: UNESCO, 1967), as quoted in John Ohliger, Listening Groups: Mass Media in Adult Education, p. 44.

[91]Henry Cassirer, "TV and Fundamental Education," Fundamental and Adult Education II (Paris: UNESCO, 1967), p. 191, as quoted in John Ohliger, Listening Groups: Mass Media in Adult Education, p. 44.

McAnany uses this example and its termination by violent political means as evidence of the problems entailed in adopting this approach, which, with its community participation, can often end up in a position of confrontation with the government programs.[44]

In some of the programs in Africa based on this approach, tapes recorded in the community were broadcast as direct feedback to the communities. This approach was applied in a systematic way to a radio school network in Ecuador by the University of Massachusetts Nonformal Education Project in Ecuador. Forty cassette recorders were delivered to the listening centers of a radio school. The study groups made weekly tapes on whatever subjects they chose, and sent the tapes to the radio station for editing and broadcast back to the entire radio school audience. The head of the radio school reported that feedback from the learning centers was effective in raising the learners' self concepts. He felt this was a much more effective means of airing learner feedback than reading aloud letters, which had previously been the only alternative.

> A campesino's voice expressing his thoughts has much more impact than a letter read in a cultured announcer's tone. "Even if the announcer attempts to read

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[44]Emile G. McAnany, Radio's Role in Development: Five Strategies of Use, pp. 18-19.

> with a campesino accent," says Padre Barriga [head of the radio school], "it only sounds as if he's trying to make a joke of it."
>
> By the autumn of 1973, the program which contained this grassroots feedback, had become the station's most popular program.[87]

It is interesting to speculate on the feasibility of using this strategy with the television medium. Succeeding chapters will investigate the technological and economic constraints of this strategy for TV.

On the other end of the spectrum of media strategies is open broadcast, which makes no attempt at organizing the listening audience. Although this strategy has been underemphasized by development educators, it is the strategy by which most of the world's radio and television is produced. The radio nutrition advertising campaign in Ecuador funded by AID, the anti-prejudice television advertising campaign undertaken by the University of Chicago and the local public television station, are examples which come to mind. Programs which are simply produced and transmitted into the air may have less effect upon people than sequenced programs accompanied by face to face contact and other media and materials. Nonetheless, it is the huge potential audience of open broadcast which explains much of education's fascination with radio. In the end of his review of radio strategies, McAnany

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[87]James Hoxeng, Let Jorge Do It: An Approach to Rural Nonformal Education (Amherst: University of Massachusetts, 1973), pp. 139-60.

complains at the large untapped audience for nonformal educational radio:

> In Brazil, for example, the actual radio audience participating in nonformal instruction in both urban and rural areas is about 40,000, or less than 1% of the "potential" audience.[88]

It is important that one define more clearly "potential" for what. There may be a potential audience of over 40 million for a single entertaining open-broadcast educational program. One would doubt, however, that the potential audience for radio strategies involving long time commitments and attendance to discussion groups is anywhere near so high.

Whichever of the utilization strategies is chosen, there remains a central question: What communications formats and styles will be most effective? Although there is little hard evidence to guide one, the literature can suggest directions for development of such formats and styles.

A recurrent theme in the literature is the fact that nonformal education aims at people with life experience which must be respected and incorporated into the educational process. Nonformal education's clients are not patient enough to passively take in learning from a teacher, "banking style" in Freire's terminology. This

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[88]Emile G. McAnany, Radio's Role in Development: Five Strategies of Use, p. 22.

would extend itself to the TV screen as well as the learning group. NFE-TV can provide for the appearance of members of the client population expressing themselves in their real environment on the screen:

> Filmmaking by or with non-professionals tape recording, photography and participation in closed or open circuit television are today important new methods of out of school education whose full significance is as yet barely grasped by educators steeped in the traditions of classical education.[*]

This full significance became more apparent to this writer upon talking with a Colombian educator who had used videotape with low income Colombians during the 1974 presidential campaign. Colombians from the poor sections of the capital were taped asking their own questions of the candidate. The candidate's reply was recorded on tape and edited in after the voter's question. The finished videotape was unusually powerful when played back in poor sections of the capital. Seeing themselves occupying the same screen as the presidential candidate, seeing the candidate respond to their questions in this way gave a power to the communication process which was unique in the experience of the informant.[**]

This power of the television medium should be a

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[*]Henry Cassirer, "The Significance of Communication Media in Out-of-School Education," p. 7.

[**]Personal interview with Claudia de Gonzalez, Special Advisor on Communications to the President of Colombia, July 12, 1974.

conscious element in the use of TV for nonformal education.

> Realism and credibility are particularly important aspects in the use of the television broadcast medium. If the programming is not attuned to the culture and daily lifestyle of the audience, it tends to be seen as something artificial and foreign, which is not an integral part of real life for the viewers and hence not credible.[91]

The rest of this dissertation will concern itself with the question of why realistic, credible and powerful communications have been the exception rather than the rule in ETV in less developed countries. The thesis will also develop a model for producing such communications in consonance with the ideals of nonformal education.

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[91] Henry T. Ingle, Communication Media and Technology: A Look at Their Role in Nonformal Education Programs, p. 15.

CHAPTER III

DIMENSIONS OF EDUCATIONAL TELEVISION

There is a tendency to talk of television as if it were one non-differentiated experience. Television wastes people's time. Television makes people passive. Television provokes aggressive behavior. Television is creating the global village. Such hypotheses are the subject of much debate and of much academic research.

In the last major study of the American public's attitudes towards United States television programming, the limitations of this approach were acknowledged:

> Television is not a readily definable unitary element like the isolated stimulus in a psychology experiment. It can mean the "Beverly Hillbillies" to one person, the Vietnam War to another, the "Superbowl" to a third.[1]

After this word of caution, the author proceeded to apply a questionnaire which probed attitudes toward the generalized notion of "television."

For the present purposes, however, it is much more fruitful to consider television in its diversity rather than to generalize about its effects. It is

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[1]Robert T. Bower, Television and the Public (New York: Holt, Rinehart, and Winston, 1973), p. 6.

necessary to move beyond television as we usually know it, in the United States context, and toward applications of the medium in countries which are in quite different situations as regards current presence of and future potential for television. First, some of the main features of what might be termed "mainstream television" in the United States and in other western countries will be discussed. Then, a number of dimensions will be developed, through which any television project can be analyzed. In this way, a general framework will emerge within which a model for television in consonance with the goals and methods of nonformal education can be formulated.

When Americans look at television, they are offered a broad range of audio-visual experiences which have been selected from an even broader range of possibilities. Theoretically, television can communicate any scene the human eye can see, any sound the human ear can hear. What is actually seen on the screen from moment to moment is the result of a complex series of decisions taken at various levels in the production, transmission and reception of the television signal. It is valuable to delineate some of these decisions, so as to place our American notions of the nature of television in perspective.

Perhaps the most striking feature of television in the United States is that it is a major activity in the lives of the population, which continues to grow in importance. In 1960, there was on the average one television

set for every 3.2 people, which was believed to be near the saturation level. No other country reached this figure until 1971. Nonetheless, the number of television sets in the United States continued to grow. By 1971 there was one set per 2.2 people.[2] During these years the amount of television viewing per household also continued to grow:

Average Daily Viewing Hours
Per American Household

Year	Time
1960	5 hrs. 3 mins.
1962	5 hrs. 6 mins.
1964	5 hrs. 25 mins.
1966	5 hrs. 32 mins.
1968	5 hrs. 46 mins.
1970	5 hrs. 56 mins.
1971	6 hrs. 6 mins.
1972	6 hrs. 12 mins.[3]

Television is used for entertainment and for information. People in the United States get most of their news from television, and feel television is a more objective and credible source than other media.[4] In other parts of the world, television plays a less important part in people's lives.

The vast majority of television programs which

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[2]UNESCO Statistical Yearbook 1972 (Paris: UNESCO, 1973), pp. 863-84.

[3]For 1960-1970 figures, see Bower, Television and the Public, p. 29. For 1971 and 1972, see Office of Management and Budget, Executive Office of the President, Social Indicators, 1973 (Washington, D.C.: U.S. Government Printing Office, 1973), p. 221.

[4]Bower, Television and the Public, p. 177.

people in the United States watch are commercial programs, which are designed in order to attract and maintain the largest potential market for the goods which are advertised during and between the programs. Commercial television's often lamented low-taste entertainment programming has been explained as a direct function of the market structures of the various products advertised on television.

The people who decry television's bad taste tend to be upper income and "well educated." The people who make up the audience for this programming are less educated and lower income. However, each member of the viewing group consumes as much of the product advertised as the upper income critic. The viewing group is also five times as numerous as the socioeconomic group from which the critics are drawn.[1]

Other modes of organization of television result in aiming at different types of audiences with different motives. Under the American commercial television structure, large audiences are attracted by offending as few people as possible, by avoiding controversy. Commercial television also does not have any impulse to strive for dramatic or artistic excellence, or for educational effects. Excellence does not seem to be necessary in order to

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[1]Melvin De Fleur, Theories of Mass Communication (New York: David McKay and Co., 1970), p. 160.

attract and maintain an audience. One film critic feels this may be a feature of the dramatic film format which television so often uses:

> The trouble with movies is that they so often provide a gratifying experience. A picture need not rise far above the level of competence in order to involve us. To distinguish movies which succeed in maintaining involvement is discrimination at the lowest level of efficiency.[6]

Nonetheless, there are indications that many people view even this kind of programming in order to learn. In fact, there is evidence that they do learn from entertainment programming.

One study of urban communications found that poor people are likely to use television to learn about things which have not been taught in formal education: how to solve problems, how to act in social situations. The same study reported that most American adults regarded television as their main source for learning about news events. Forty percent of the general public said they got most of their news from television. Seventy percent of the low income public said they took most of their news from television.[7]

Another project surveyed attitudes toward television among randomly selected heads of households in one

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[6]V. F. Perkins, Film as Film (Middlesex, England, Penguin, 1972), p. 137.

[7]Edmund M. Midura, ed. Why Aren't we Getting Through? The Urban Communications Crisis (Washington: Acropolis Books, 1971), p. 19.

American city. The motivation for television viewing most frequently cited by the respondents was learning. This dominated the motivation of escape from one's problems or from the monotony of daily life.[8]

If people can learn from American commercial television, one might think they can learn from any television programming. In a sense, all television can be considered educational television, thanks to man's natural inclination and ability toward learning. The task of the television educator is to make that learning more efficient, enjoyable and relevant. However, American commercial television does not favor such considerations.

In addition to failing to promote excellence, United States commercial television actively impedes certain types of expression. Programming content is not allowed to counter the goals of advertisers. Quality dramatic presentations deal with enduring human problems. Advertisers often choose to create the impression that their products represent magical solutions to human problems, such as irritability, pain and insecurity. One writer on the subject feels that commercial sponsors undermined the development of serious drama on American television because such programming did not create the

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[8]Keith Mielke, "Reviewing the Link Between Communications and Educational Technology," Audio-Visual Communications Review 20 (Washington, D.C.: Association for Educational Communications and Technology, 1972), p. 382.

proper mental set in the viewer for reception of advertising.' A more direct form of censorship of the medium can be found in Procter and Gamble's editorial policy with regard to sponsorship:

> There will be no material that may give offense, either directly or by inference, to any commercial organization of any sort . . . there will be no material on any of our programs which could in any way further the concept of business as cold, ruthless, and lacking of all sentiment or spiritual motivation.[10]

Such forces operate in American commercial television, and explain a great deal about its limitations. They should not, however, be seen as inevitable features of television.

In European commercial television, for example, advertisements are bunched together between shows. Advertisers are not allowed to sponsor individual programs. In this way, some of the advertiser control of content found in American television is avoided. Furthermore, television in many parts of the world is in public hands, and is not dependent upon commercial advertising at all.

Many countries have patterned some or all of their television broadcasting after the model of the British Broadcasting Corporation (BBC) which is financed by a yearly license fee on television receivers. In addition to sub-

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[9]Erik Barnouw, The Image Empire (Oxford: Oxford University Press, 1970), p. 33.

[10]Timothy Green, The Universal Eye: World Television in the Seventies (London: The Bodley Head, 1972), p. 26.

stituting for commercial revenues, this method of automatic financing is meant to insulate the BBC from political pressures which might affect their content.

This financing arrangement also frees broadcasters from placing total emphasis upon attracting the largest possible audience. In this way attention may be placed on cultural and educational objectives. Nonetheless, publicly financed television must also pay some attention to the number of viewers which it attracts.

The general manager of the publicly financed Australian Broadcasting Corporation (ABC) expressed this situation in the following way:

> We must compete for audiences. If we don't our audience will diminish beyond the point at which we can claim to be a national broadcasting authority. Some people would like to see us maintained merely for the satisfaction of minority audiences, while they themselves were free to attend to the majority audiences. But we could then no longer be regarded as a national body.[11]

This quotation seems to suggest that unless they can attract a substantial portion of the national audience, television structures patterned after BBC would risk losing public financial support. Nonetheless, the ability of ABC to pursue cultural and educational objectives is markedly greater. American commercial television sacrifices all cultural and educational objectives for general entertain-

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[11]Talbot Duckmanton, General Manager, Australian Broadcasting Corp., quoted in Green, The Universal Eye: World Television in the Seventies, p. 284.

ment objectives in the attempt to maximize audience size. On the other hand ABC must respect general entertainment criteria enough not to fall below a certain minimum audience size.

The situations into which educational television is introduced in developing countries are generally characterized by heavy government involvement in television. Of seventy-three countries in Africa, Asia, and Latin America which possess television, forty-nine have placed control of the medium either directly in the hands of the state or in the hands of a public corporation.[12] From this data it is not possible to know to what extent BBC-style public corporations predominate, and to what extent state enterprises are the rule. State enterprises are, of course, even more free than public corporations from the need to attract the largest possible audiences. On the other hand, government controlled television often falls prey to the tendency to use the medium for propaganda purposes.

Often, the introduction of ETV into a developing country setting has meant massive expansion of the entire infrastructure of television. Where television has been either nonexistent or confined to a capital city, this has sometimes meant creation of new production and transmissions facilities, distribution and maintenance of large

[12] UNESCO Statistical Yearbook, 1972, pp. 863-84.

numbers of receivers. Such large investments have generally been possible due to the infusion of massive financial, technical and human resources from developed countries.

In other instances, the introduction of ETV into a developing country has taken place on a much more modest scale. Pre-existing production and transmission facilities have been used to service viewers who already had access to television receivers. The instances of ETV in developing countries have differed from one another in many ways. They have all differed from the television we know as a medium for culture and entertainment in western countries. In order to make more clear the nature of these differences, it is helpful to think in terms of a number of continua or dimensions along which every ETV project must make a choice.

For purpose of analysis, a number of dimensions have been created, some pertaining to the general context and approach of the project, and some pertaining to specific attributes of the project's television programming and of the equipment used to produce it. These dimensions can be summarized as follows:

Project Context and Approach	Project Software
communications setting	volume
project size	cost
institutional context	format
target audience	control/spontaneity
audience rewards	didactic/dialogue
project objectives	audio-visual sophistication
methods of production	
methods of formative evaluation	

Project Hardware

cost
portability
ease of operation
ease of maintenance
self-sufficiency of the system

Choices along each of these dimensions can be evaluated in light of the three basic philosophies developed in Chapter II. The type of television advocated by Coombs and Schramm is centrally controlled, large scale, and offers programming produced and packaged by professional educators and technicians for a structured learning environment. Illichean television would attempt to decentralize control, to operate on a lower scale, and to allow the learners to program their own learning. Freirean television might permit either centralized or decentralized control, either national or local scale, as long as programming stressed real social problems and real people reflecting upon and taking concrete political action to resolve those problems. By applying the values found in these three basic approaches to education, we can derive means for evaluating choices made by educational projects along the dimension to be elaborated.

Communications Setting

No educational television project takes place in a vacuum. Rather, each project must be planned in relation to the geographic, demographic, and economic context in

which it will be implemented. These factors often play a key role in the feasibility of a project at the planning stage, and in the viability of the project once it is operating.

The geography of a region determines how far a television signal can project, and how well it can be received within the area of coverage. Geography also affects the ease of transport into the area of coverage for receiver maintenance and non-mediated contact with the learner population. For example, El Salvador's small size and topographic nature permits national television coverage at relatively low cost. On the other hand, Colombia has regions which cannot receive television signals, in spite of a network of transmitters.

The demographic situation of El Salvador offers comparatively low costs due to the concentration of population. On the other hand, American Samoa has a relatively small number of people who are widely dispersed. This feature imposes unusual technical and financial burdens on the Samoan ETV project.

The economic setting into which ETV is introduced is also an important consideration. The developers of Sesame Street, for example, entered an economic setting where it could be presumed that virtually every learner had access to a television set, and to electricity to power that set. Furthermore, it could be assumed that the costs

of purchase, operation and maintenance of that receiver did not need to be borne by the ETV project. On the other hand, the ETV project in the Ivory Coast entered a setting where it was necessary for the project to bear the costs of purchase, installation, and maintenance of TV receivers. In that setting, it was even necessary for the project to provide electricity to power the receivers. Thus the communications setting in which a project operates has an influence on the complexity and size of the project.

Project Context and Approach

Project size. Perhaps the most immediately noticeable dimension along which television projects and programs vary is the size and comprehensiveness of their coverage. This is most simply illustrated by the example of the American commercial program Bonanza on the one hand, and the Niger educational television project on the other. The former reaches approximately 400,000,000 people each week in some eighty-two countries.[13] The latter reaches some 800 students in twenty classrooms in and around the capital

[13]Timothy Green, The Universal Eye: World Television in the Seventies, p. 4.

of the African country of Niger.[14]

In addition to these two extremes, there is a broad middle ground of national level television for education, entertainment and culture. Sometimes, these different types of television co-exist in unexpected ways. In Colombia, for example, television is nominally in the hands of the state. Indeed, the state does operate one of the largest educational television projects in the world. The number of student viewers has been estimated at 400,000.[15]

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[14]Wilbur Schramm, The Ure of Television in the El Salvador Program of Educational Reform: Differences between This Project and Some Others (Stanford, California: Institute for Communications Research, 1969), p. 1.

[15]Ibid., p. 1. However, a personal visit to a Colombian rural school in July, 1974, revealed that televised classes, although available, were not being used by teachers, who resented the tight scheduling for television classes. There were no opportunities for teachers to communicate their concerns to programmers. Nor had the programmers been informed that their programs were not being used. Consequently, one wonders about the accuracy of that figure.

In any event, on the same Colombian state controlled network, it is possible to tune in Bonanza each week. This is because the state television enterprise, Inravision, leases airtime to commercial broadcasters who purchase and transmit imported commercial shows. This happens because television is extremely expensive to produce, and because television networks have an incredible appetite for programming. Most developing countries which operate large national networks, simply cannot afford to produce the programming to fill their channel capacity. It has been estimated that the average country with two or three channels of television will require something like sixty to one hundred hours of new programming each week.[16]

When Israel began television it was found impossible to avoid the importation of commercial programming. Many small nations begin television with the aim of using the medium for education and culture. They soon find that they are incapable of generating the resources to produce such programming for their country. To import programming, however, is very inexpensive.

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[16]Green, The Universal Eye: World Television in the Seventies, p. 4.

The Israelis found that it cost $10,000 to $15,000 to produce a modest variety show. It cost $200 to $300 to import such a show.[17]

The above considerations should be of great importance to those who would undertake a national educational reform via television, such as those of El Salvador, American Samoa, or Ivory Coast. In the above instances outside financing was available on a lavish scale. Wilbur Schramm noted that all the cases of basic national educational reform by television had had massive infusions of outside money and technical personnel.

National educational reformers which are not able to raise such outside moneys may find themselves resorting to leasing their channel to commercial concerns with objectives far different from their own merely in order to raise money to sustain the operation.

Among projects aiming at the national level, there are also differences in size, and by extension, in cost. Most of the national level reforms mentioned in the literature (Columbia, Samoa, Salvador, Ivory Coast) involved introducing educational television into an environment where it had not previously existed on a national scale. The projects took upon themselves not

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[17]Elihu Katz, "Television Comes to the People of the Book" in Irving Louis Horowitz, ed. The Use and Abuse of Social Science (New Brunswick: Transaction Books, 1971), p. 255.

only the tasks of deriving learning and viewing objectives, and of elaborating these objectives into programming, but also of mounting and operating a transmission facility, and of financing, installing and maintaining receivers for their learner population. On the other hand, in the United States where television receivers are broadly diffused throughout the population, a national level effort like Sesame Street need only assume the function of program production.

Finally, at the other end of the spectrum from the national level are the projects which begin as a pilot program, with a local audience, and which expanded on the basis of successes on a small scale. Such an approach may involve beginning with programs which are distributed physically rather than by broadcast. The Skyriver experience in Alaska, (which will be discussed at length) involved video taping at the community level, and non-broadcast replay of the tapes. The mobile cinema vans utilized in various parts of Africa represent another means of beginning the business of producing and distributing audio-visual communications without having to assume the functions of broadcasting and of installing television receivers.

Alternatively, where a transmission infrastructure already exists and is accessible for education, projects

can have their programs broadcast without diverting their resources from the central function of program production. A final possibility is to assume the functions of transmission and receiver installation, but on a very small scale. This was the course taken by the project in Niger, which operates a small transmitter and a reception network of twenty receivers.

The lower-level approaches have the advantage of not wasting large amounts of resources during initial phases of a project. On the other hand, they have the disadvantage of often not being extended beyond the pilot stage. For example, the Skyriver Project had its funding removed, despite impressive successes. The Niger television project was never extended beyond the initial twenty classrooms, since the Ministry of Education did not develop a commitment to it. Expansion from the pilot stage involves an additional round of negotiation with funding agencies. Beginning on national scale from the start obviates this stage, although at the cost of risking large scale failures.

This argument has been explored in general terms by students of the most noted national level television education projects in developing countries. Wilbur Schramm has emphasized the sheer energy required for educators to introduce and master television. He feels that the undertaking must be of a sufficient scale to enlist the

complete support of the National Ministry of Education. He feels that unless a "critical mass" is achieved from the start, the economics of television distribution will not be favorable, the local government will not concentrate and dedicate enough resources to the enterprise, and the medium will be underutilized. On the other hand, if the critical mass is achieved, the introduction of television can serve as a catalyst for other types of reform.

Ministries often conclude that it is not worthwhile to dedicate such resources to delivering an outdated style of education to a nationwide audience. In Samoa, El Salvador, and the Ivory Coast, nationwide instructional television has been the catalyst for massive programs of teacher training and retraining, of curriculum reform. Indeed, Schramm spends nearly as much time considering television as a catalyst of other changes than he does considering television per se as a medium of communication and instruction. In terms of change strategy, Schramm speaks of TV in terms of the "surfing principle":

> When used as an instrument of educational reform, television must ride the forward edge of the wave. If it falls behind the wave of general change, it will miss the ride. If it starts too far ahead, it risks being knocked off the board.[18]

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[18]Wilbur Schramm, ed., Quality Instructional Television (Honolulu: University of Hawaii Press, 1972), p. 221.

The notion of television as a system component in a basic nationwide educational reform is central to Schramm's "critical mass" argument.

Another school of thought reacts against this large scale approach. In an article entitled, "Thinking Small" one author questions the application to educational planning large scale reform in a country where the average teachers' wage is $80 per month. In this environment, hardware ranging as high as $70 million would seem to be a luxury. One developing country educational planner is mentioned, who wanted to give his 160,000 teachers a $3 monthly raise. He realized this would cost $25 million per year. In this environment, according to Cowlan, the introduction of sophisticated expensive television hardware is a severe distortion of priorities.[19] On the other hand, Schramm might well argue that $25 million invested in a raise for teachers would yield little educational benefit. The same amount invested in ETV could well result in significant changes in the types of education being conducted in the classrooms. Nonetheless, teachers' financial needs are very real concerns. The price of paying too little attention to teachers was learned by the instructional television project in

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[19]Bert Cowlan, "Thinking Small: Some Comments on the Role of Mass Media for Economic and Social Development," Educational Broadcasting International, (London, June, 1973), p. 82.

El Salvador. In 1971 a long and bitter strike was conducted by the teachers union of El Salvador, which felt that television was receiving much more attention and resources from the Ministry of Education than they were.[20]

Target Audience

The viewers of a given television program or project can vary in several different ways. Firstly, the programming can be targeted to a general interest audience or a specific audience. Composition and size of general interest audiences will vary according to the level of penetration of television in the general population of the area. General audiences are usually reached by the "open broadcast" utilization strategy mentioned in Chapter II. There is generally no attempt at organizing activities at the reception end when this type of audience is being sought. This is not to say, however, that ancillary activities could not be tied into such television programming. Public television in the United States has produced general interest educational programs which have asked that interested viewers write in for supplemental readings, games and exercises.

Specific audiences vary according to age, socio-economic standing, occupation, and previous level of

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[20]Robert C. Hornik, Henry T. Ingle, John K. Mayo, Emile G. McAnany, Wilbur Schramm, Television and Educational Reform in El Salvador, Final Report (Washington: Academy for Educational Development, 1973), p. 233.

education. Programming which aims at a specific audience is crafted to deal with needs of the population in mind, and is not likely to attract a broad audience. Few adults, for example, would become regular viewers of Sesame Street Few children would become regular viewers of RFD, The University of Wisconsin's adult basic educational program.

Specific audience programming is likely to be non-commercial since by definition, it does not attract the largest possible audience. It may have other learning activities tied into it and employ one of the media utilization strategies which attempts to organize the receivers into groups, whether school classrooms, decision groups, nonformal learning groups or participating groups.[21] The major national level educational television reforms fit into the first category. American Samoa used television to reach all school children in grades one through twelve. Colombia used television to reach primary students. El Salvador chose to innovate in grades seven through nine. And Ivory Coast has chosen a mix of school and nonschool audiences with main emphasis on primary students and offhours programming for adults involved in nonformal education.

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[21] Emile G. McAnany, Radio's Role in Development: Five Strategies of Use (Stanford: Institute for Communication Research, 1973), p. 22.

All the above cases represent attempts at nationwide television programming, aiming at a specific segment of the national school population. This approach is very much in line with the views of Coombs and his colleague Wilbur Schramm who believe in the importance of the critical mass, the large-scale application of television to a specific audience within the formal educational system.

Although the TV projects serving formal education which receive most attention are the large-scale projects, there have been many lower-level ETV projects teaching formal education audiences. The project in Niger broadcasts to twenty primary classrooms in one city. The Tele-Escuela Popular (or American Tele-School) program in Peru broadcasts to one city, and serves primary school drop-outs. Nigerian educational television was organized at the regional rather than the national level. These lower scale approaches are more in line with the Illichean approach, since smaller institutions have a greater potential for getting in touch with their clients' needs.

Institutional Context

The national level educational television projects in Samoa, Salvador and Ivory Coast are operated by the central educational authorities and aim at achieving efficient economies of scale through reaching large numbers of classrooms. They are tied into attempts at basic reforms in other aspects of the schooling system: curricula, teacher training, expansion of enrollments. They follow the model advocated by Schramm and Coombs.

The other projects referred to above operate on a regional or municipal level. However, they follow the Schramm-Coombs model in the sense that they are centrally controlled by professional educators, follow formal curricula, and lead to formal schooling certificates. Other institutional contexts would be more suitable to the philosophies of Illich and Freire.

A project more to the liking of Illich and Freire would be the Tanzania 16 video tape project, wherein video tape materials were generated at the village level, with participation by nonprofessionals. There was no link to the formal education system. The essence of the project was a communications process within and between villages via video tape. The outside video crew spent several months on location in the participating villages, responding to the desires of the residents for self-expression. During the experiment, the resulting video tapes

were played for government personnel in the capital. After the project ended the tapes were to be delivered to the Ministry of Education for their own use.[22]

Another institutional context for the development of educational television programming resulted in a series of television spots designed to help school-age children combat racism. The "commercials" were produced jointly by the University of Chicago, two local advertising agencies and Chicago Public Television. First, a multidisciplinary team including specialists in cultural pluralism, race relations and child development researched the target audience. Based on the resulting information, advertising and production specialists created, produced, tested, and distributed the spots to 500 American television stations. This differed from the usual approaches to public service advertising. As one of the producers stated:

> Traditionally, if one is producing a spot on a social problem such as alcoholism, the contract goes to an advertising agency. The agency may confer with one or two experts in the field, but the production is really an agency effort. But in creating these spots on ethnicity, it was an in-depth study of the subject matter by a wide range of experts which preceded the production process.[23]

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[22] Ideas and Action Bulletin, "An Experiment in Video Tape for Village Communication in Tanzania," (Rome: United Nations Food and Agricultural Organization, 1973), pp. 5-7.

[23] Morton H. Kaplan Assoc., "The Genesis of a Public Service Campaign," (Chicago: Morton H. Kaplan Assoc., 1974), press release p. 3.

The procedures employed were not unlike those advocated by Paulo Freire for the production of static visual "codifications." The theme of creating a consciousness of current human problems deriving from racial stereotyping in schools is not unlike raising consciousness with regard to oppression.

Rewards

The rewards offered the viewer of an educational television program can be direct or indirect, concrete or abstract. The viewers of the University of Wisconsin's WHA-TV are offered a series of small, direct and concrete rewards for watching. These rewards vary from learning how to mend a broken screen door to assistance in finding employment. Another reward is the address where viewers can write for written materials which reinforce and amplify the television coverage of problems and their solutions.

On the other end of the spectrum, a viewer of Colombian primary school television anticipates the reward, not of concrete or directly useful knowledge, but of progress in the schooling system, and, ultimately, a primary school certificate. This certificate entitles its bearer to more formal education, which ultimately should result in a better job, and a higher standard of living. This is an instance of abstract and indirect rewards.

It is not easy to differentiate between the three major approaches to education as regards rewards. All three would claim to offer a mixture of all the above mentioned types of rewards. Coombs advocated school as well as nonschool education, but hoped to see the formal educational institutions promote a more directly relevant and concrete form of learning. In Chapter II, reference was made to the package of minimum knowledge, skills, behaviors and attitudes which, Coombs felt, were necessary for leading a fruitful adult life. This represents a mixture of rewards: concrete knowledge, skills and behaviors, abstract knowledge and attitudes.

Likewise, Freire advocated a mixture of the concrete and the abstract, the direct and the indirect. For Freire the reward of education had to be conscientization, which incorporated concrete knowledge of one's social situation with abstract attitudes, about one's situation, direct behaviors to alter one's situation with indirect satisfaction from having acted to affect one's situation. Illich was far less specific than the other two regarding the rewards of education for the learner. He felt that the reward was in the process of participating in a "deschooled" spontaneous learning environment. For Illich the rewards which educational television should offer would be participation in spontaneous audio-visual communication.

Objectives

The objective of commercial television is to attract and maintain a large audience. The objective of any educational enterprise is to create changes in its learner's attitudes, knowledge, skills and behaviors. Ideally, the objectives of the enterprise and the rewards anticipated by the learners should be closely correlated. Insofar as the enterprise endeavors to serve the needs of learners, it will bring its objectives in line with the rewards sought by the learners.

In educational television projects, it has often been difficult to do this. Since many projects serve the formal school system, they have tended to assume the objectives of that system, rather than to probe the needs of the learners. Most national level reform projects have had as a major objective the expansion of school enrollments. In their more specific objectives they have differed. In Samoa, television was used to speed the pace of educational change. In Niger, television was used to make up for a shortage of trained teachers. In Colombia, television upgraded the quality of instruction in primary schools. In El Salvador, it catalyzed a major educational reform in grades seven, eight, and nine. In these cases the specific learning objectives were drawn either from existing Ministry of Education curricula or from curricula developed especially for television by professional educators.

Other projects have objectives in whose definition the learners can actively participate. For example, the Tanzania year 16 project described above, had three main goals:

1. To help develop communications within and between Tanzanian villages
2. To communicate the concrete experience of rural life to government administrators and university students in the capital
3. To prepare a video taped account of a rural population trying to liberate itself from the state of underdevelopment and dependence for development education in industrialized countries.[24]

At all stages in the realization of these objectives, tapes were screened for the village audience. The ensuing debate and conversation was taped and included among the accumulating video materials. Strictly speaking, the three objectives of the projects dealt with three separate learner populations: villagers, residents of the capital, and students in development education in industrial countries. In fact, the villagers were the center of the project, both participants and learners in a communications process, whose products could be tailored to the needs of the three learner populations.

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[24] Ideas and Action Bulletin, "An Experiment in Video Tape for Village Communication in Tanzania" (Rome: United Nations Food and Agricultural Organization, 1973), pp. 5-7.

The Tanzania 16 project represents another extreme along the dimension of objectives. Since it promotes dialogue on questions of oppression and liberation, it would be in line with the philosophy of Paulo Freire. By turning the video tape medium over to grass roots learners, it would have met Illichean objectives.

Methods of Production

Television programming may be produced in either a highly professionalized, or a highly participatory way. Combinations of professionalization and participation are also possible. The general point of reference in television, however, is the professionally conceived, professionally scripted, professionally acted, shot, and edited.

One way of breaking away from the totally professional is to use members of the audience as "talent" - the term employed by television professionals to describe the people who appear on screen. In Ireland, for example, there is a Saturday evening talk show, which invites people from all walks of life into the studio for lively discussion of contemporary issues. The show is professionally produced, but with nonprofessionals appearing on the screen.[25]

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[25]Green, The Universal Eye: World Television in the Seventies, p. 5.

In Mexico, television dramas are produced inexpensively and without the advance planning which is usually the case. Their secret is a midget radio receiver, placed in the ear of each actor. By reading stage directions and lines of dialogue to the actors in real-time, the costly and time consuming process of having actors learn stage directions and dialogue is eliminated. The result is dramas which are produced quickly and at a cost of between $2,400 and $3,800 per hour.[26] Each hour of Bonanza costs $220,000.[27]

It is also possible for nonprofessionals to produce programming completely on their own, from conception to final editing. There are several community media centers in major American cities, which exist in order to service the public's desire to produce programming for public access' channels of cable television systems. These centers will instruct any interested citizen on how to script, shoot and edit video tape. They will also help see that the resulting product is cablecast.[28]

For followers of Illich, who place great emphasis on decentralized process, on institutions who serve their

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[26]Green, The Universal Eye: World Television in the Seventies, p. 63.

[27]Ibid., p. 24

[28]Neil W. Goldstein, Alternate Television: Status Trends and Issues (St. Louis, Mo: Washington University, 1974).

clients, this last alternative would be ideal. For Freire, who believes in a professionalized approach to materials production and a participatory process of dialogue about those materials, production methods may not be so important as the fact that the studio is located in the community, and focuses its cameras on the community's problems.

Formative Evaluation

Formative evaluation is research oriented toward generating information useful in producing better performance relative to objectives. This was first defined and differentiated from summative end-of-project evaluation in 1967.[3] Sesame Street was the first educational television program to make heavy use of this type of research. Even today, however, projects which incorporate formative evaluation into the TV production process are the exception rather than the rule.

In 1971, one observer noted that only ap-

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[3]Michael Scriven, The Methodology of Evaluation, American Educational Research Association, Monograph Series on Curriculum Evaluation (Chicago: Rand, McNally and Co., 1967).

proximately 1% of all videotaped materials used in American schools had undergone any formative testing during their development.[10] However, several important journal articles since then have urged that formative evaluation be seen as an integral step in production.[11]

One of the more common methods of formative evaluation is to seek structured audience feedback to materials which have been produced without previous evaluation of audience needs or expectations. Audience reaction is used either for revisions of materials or for the production of subsequent materials. This is one way of using knowledge about performance to improve performance relative to objectives.

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[10]P.K. Komoski, "Statement to the U.S. House of Representatives Committee on Education and Labor," in Hearings: To Establish a National Institute of Education, 92nd Congress, First Session (Washington, D.C.: U.S. Government Printing Office, 1971), p. 22.

[11]See Eva L. Baker and Marvin C. Alkin in "Formative Evaluation of Instructional Development," Audio-Visual Communications Review 21 (Winter 1973), pp. 389-418; and P.K. Komoski, "An Unbalance of Product Quantity and Instructional Quality," in Audio-Visual Communications Review 22 (Winter 1974), pp. 357-86.

Wilbur Schramm, consultant and evaluator to several of the national educational television projects mentioned above, has published a memorandum listing a number of methods for obtaining feedback to instructional television programming in formal education:

1. Pretesting programs
2. Teaching to pupils in the studio
3. Immediate electronic feedback from the classroom
4. Testing at frequent intervals on learning of program content
5. Obtaining regular comments from classroom teachers
6. Making regular observations of classroom activity
7. Obtaining regular reports on attitudes of pupils and teachers
8. Obtaining reports on specific problems
9. Expert reviews of programs and materials[¤]

Virtually no project makes use of all these techniques. Indeed, many projects neglect feedback completely, or treat it very lightly.

One tendency in school television is to obtain feedback from the teachers rather than from the learners. There are less teachers than learners. Teachers are more

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[¤] Wilbur Schramm, "Feedback for Instructional Television" (Stanford: Institute for Communication Research, 1969), pp. 3-4.

responsible than young learners. And, in a sense, teachers are the most important clients of formal ETV producers. As "gatekeepers" of the medium, teachers have the power to turn off the TV set, if they are not pleased with the programming. In short, a formal ETV programming which does not please teachers may never reach its primary audience.

For example, the feedback forms used in the American Samoa project concentrated on whether supplementary written materials had arrived to the teacher on time, whether the teacher felt students liked and understood the televised lessons, and whether the teachers thought the classroom follow-up materials adequate."

Colombia's national ETV project research also tended to underemphasize learner reactions in some respects. Testing of attitudes toward the television programming was confined to teachers:

> We did not try to obtain systematically any feedback on pupil attitudes towards the various courses. We knew they liked and enjoyed the telecasts. We observed various classes while they watched the televised lessons and we always found that the children were entranced by the programs.[»]

The author continues that pupils were, by and large, lower class, and had not had any previous exposure to

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"Wilbur Schramm, "Feedback for Instructional Television" (Washington, D.C.: Academy for Educational Development, 1969), p. 10.

»George Comstock and Nathan Macoby, The Peace Corps Educational Television Project in Colombia--Two Years of Research. Research Report No. 10 (Stanford, California: Institute for Communication Research, 1966), p. 6.

commercial television. Therefore, their expectations from television were not very high.[25] No attempt was made to test whether certain types of programming were received better than others by the children.

To please Illicheans and Freireans a television project would have to go directly to its learners for feedback. It would have to ask many more questions and more basic questions about the way in which the project was serving the learner's needs.

Indeed, it is possible for formative evaluation to begin long before specific television messages have been conceived, scripted, or produced. WHA-TV, a successful producer of adult education television series, begins formative evaluation with a process which assesses problems and needs as seen by the learners and by the social service agencies.

First a series of group meetings discuss target-audience needs relating to employment. Problems identified are categorized under 24 headings and rank order. Programming goals and learning objectives are derived from this problem identification data.[26] Before production, the group also tests to obtain information about general audience interests, and specific communication behaviors. This testing has revealed very different

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[25] Ibid.

[26] WHA-TV, "An Assessment of Target Audience Needs and Programming Implications for the American Pie Forum," unpublished mimeograph (Madison, University of Wisconsin Extension, 1973).

sets of priorities from those which the staff, community workers and other local specialists had predicted."

It is also possible to obtain learner feedback at every stage during the elaboration of learning objectives into program material. From the realm of advertising, comes sound advice on formative evaluation:

> The most important word in the vocabulary of advertising is test. Twenty-four out of twenty-five new products never get out of test markets. Manufacturers who don't test market their products incur the colossal cost (and disgrace) of having their products fail on a national scale, instead of flying inconspicuously and economically in test markets. Test your promise, test your media. Test your headlines and your illustrations. Test the size of your advertisements. Test your frequency. Test your level of expenditure. Test your commercials. Never stop testing, and your advertising will never stop improving."

In terms of educational television, the above would translate into: test your concept, test your treatment, test your script, test your rough cut, test your final program. Of course, testing costs money, and hard choices must be made. However, it is important to realize the full range of options before the television educator.

Project Software

Software volume. Another way in which television projects vary is the volume of programming they produce within a given

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"Tony Dodds, Multi-Media Approaches to Rural Education (Cambridge, England: International Extensions College, 1972), p. 33.

"David Ogilvy, Confessions of an Advertising Man (New York: Atheneum, 1966), p. 86.

amount of time. Production pressure exerts an influence on quality and on the amount of planning and production effort which can be invested in each program. Until 1971, the American Samoa television operation produced 6,000 programs per year, with an average twenty minutes per program.[39] Assuming a thirty week school year, this averages out to 66.7 hours programming per week. This project was producing core curriculum for all twelve grades of school. Inevitably, such high production pressure reduces the amount of creative energy and audio-visual sophistication invested in each show.

In comparison with Samoa, the world's other national level educational television projects produce a significantly lower volume of programming. The Ivory Coast project produces 7.5 to 8 hours of programming per week.[40] The project in El Salvador produces 4 to 5 hours per week. Britain's open university contracts BBC to produce 150 programs per year of one half-hour average duration.[41] This amounts to 1.5 hours per week (assuming year-round production by BBC). Documentaries by BBC or by American television networks often involve six to eight months work on one hour of programming.[42] This amounts to two minutes of programming per week.

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[39] Wilbur Schramm, "Quality in Instructional Television" (Honolulu: University of Hawaii Press, 1972), p. 221.

[40] Ibid., p. 222.

[41] Wilbur Schramm, Big Media, Little Media, p. 130.

[42] Alan Rosenthal, The New Documentary in Action: A Casebook in Film Making (Berkeley: Univ. of Cal. Press, 1971), p. 133.

Other projects such as the Tanzania year 16 project do not work under any production pressure. They produce programming in accord with what their clients have to communicate. In many of the Canadian video and television projects, for example, production may shut down for entire seasons of the year, while people migrate to seasonal jobs.

If one were to assume thirty weeks in an academic year, one could make the following rough comparison of production levels of the television projects mentioned above:

Project	Production per Week
Samoa	66.7 hours
Ivory Coast	7.8 hours
El Salvador	4.5 hours
Tanzania Year 16	3.3 hours[93]
Open University	2.5 hours
Bonanza	.5 hours
TV documentary	.03 hours

Although it would be necessary to compare the technical human and financial resources available to each project in order to get a precise idea of the production pressure under which each promotion team works, the above figures do give some indication of the different rates at which television projects produce programming.

Software Costs

Another important variable is the cost of each television program. Pakistan television is said to cost under $300 per hour, including costs of writers, actors,

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[93] "An Experiment in Video Tape for Village Communication in Tanzania," Ideas and Action Bulletin, pp. 5-7.

and incidental expenses."[44] On the other hand, an hour episode of Bonanza costs $220,000.[45] Most educational television projects produce programming at costs between these extremes:[46]

Project	Cost/Hour
Electric Company	75,000
Sesame St.	48,000
Open University	20,000[47]
American Samoa	2,300
El Salvador	1,300
Tanzania Year 16	875[48]

The amount of money expended on each program affects the type of program which can be produced.

The format of Colombian Educational Television programming, for example is the tele-class, whereby a television teacher lectures, questions, and demonstrates principles and concepts. Some film clips, animation, and

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[44] Green, The Universal Eye: World Television in the Seventies, p. 245.

[45] Ibid., p. 23.

[46] Kenneth Polcyn, An Educators Guide to Communications Satellite Technology, (Washington: Academy for Educational Development, 1973), p. 50.

[47] Wilbur Schramm, Big Media, Little Media, p. 214.

[48] Ideas and Action Bulletin, "An Experiment in Video Tape for Village Communication in Tanzania," pp. 5-7. The budget of the project was learned during an interview with Randall Casey of the Academy for Educational Development January 29, 1975. Since the budget included equipment purchase and several trips to and from Tanzania programming costs may be overstaffed.

other visuals are inserted. However, cost is always a constraining factor. One of the producers told the writer approximately one third of the time of the average primary school broadcast was dedicated to graphics and visuals generated outside the studio. On the other hand, the head of educational television stated that many of these visuals represented clips from films borrowed from embassies, that did not completely match the needs of the program producers."[9]

Television programming which is not constrained by budget problems may draw on a whole wealth of communications devices. Sesame Street, which is funded at a level of approximately $6,000,000 per year, has substituted for the tele-teacher a cast of stock characters whose teaching is done by dramatization. Extensive use is made of outside filming, cartoons, animation, and a wide range of special effects.

Program Formats

As is stated above, with high budgets come opportunities to experiment with different formats. Sesame Street is able to replace the television teacher with a group of characters who interact on the screen in ways that are both entertaining and educational. Drama and situation comedy become formats which Sesame St. can include in its

[9]Personal interview with Beatriz de Canal Inravision, Bogota Colombia October 26, 1974.

repertoire of communications techniques. Animation and cartooning can communicate abstract concepts in very clear and direct ways. Filming outside the studio offers use of the documentary format. The "musical variety" format drawn from commercial television has been used by Sesame Street, as has the commercial itself. Various episodes of the show are "sponsored" by various letters which are repeated to aid children's learning of the alphabet.

In order to make use of these diverse formats, a project must have experienced writers and producers. It must also have a relatively high level of economic resources, and time enough to experiment. A dramatic or comic segment may not be effective unless it is rehearsed and/or re-shot several times. A project operating under the production pressure of the American Samoa project would not be able to delve into these formats.

The three philosophers of education might have quite different reactions to the notion of exploring these formats. Coombs and Schramm value these considerations when they are feasible and necessary. In their eyes, they become necessary when a program, like Sesame Street, is distributed by open broadcast, and must compete with commercial television fare for its audience's attention.

Illich might well see the use of these formats as a removal of control over the medium from the learner

population. He might well prefer to see spontaneous or indigenous cultural means of expression as the proper basis for deriving television formats.

Freire, on the other hand, has utilized professional academic researchers and artists to produce his own visual materials. For Freire, the acid test of format would be whether it tends to illuminate or obscure the state of oppression of the learner population.

Control/Spontaneity

The producer of a television or film product always controls the content in the last analysis. He may decide to edit out a segment in the final post-production stage. He may decide that a given phenomenon should not be taped or filmed in the first place. He may strike something out of the script or treatment. There are various stages in the generation of video tape and film materials where the producer can exercise control or allow spontaneous expression to enter into the process.

Most types of film and television production are dedicated to complete control of the style and content by the producer. Peter Hopkinson described the series of steps he follows in producing a development film for an agricultural agency in a developing country. First, he talks with the officials commissioning the film, visits field workers of the agency, and the areas in which the filming was to be done. He then returns to the city, writes

a treatment for the film, and presents the treatment to agency officials for their approval. Upon approval, the producer director writes a script, and submits it for approval. Once the script had been approved, he is given the go-ahead from the production manager to take his unit to the field and to film. He recruits actors, teaches them the lines he has written, films the script, and returns to the city. The movie is edited, and shown as a rough cut to agency officials for their approval.[50] Only after the final release prints are made, do the learners have a chance to express themselves. And Hopkinson notes that many times their contribution has been to manifest that they don't understand what is being presented to them on the screen.[51]

Another school of thought on the way to produce film and television is that of the documentarians and the proponents of cinema verity:

> Many filmmakers feel that the aim of the filmmaker is to have complete control. The conception of what happens is limited by the conception of the filmmaker. We don't want to put this limit on actuality. What's happening, the action has no limitations, neither (does) the significance of what's happening. The filmmaker's problem is more a problem of how to convey it.[52]

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[50] Peter Hopkinson, The Role of Film in Development (Paris: UNESCO, 1971)

[51] Ibid.

[52] Gideon Bachman, Robert Drew, Richard Leacock, D. A. Pennebaker "Fronteirs of Realist Cinema," in Richard D. "cCann, Film: A Montage of Theories, (New York: EP Dutton, 1966), p. 292.

The great filmmaker John Grierson, who founded the documentary film movement, had defined his goal as "creative treatment of actuality."[53] Grierson felt that:

> The cinema's capacity for getting around, for observing and selecting from life itself can be exploited in a new and vital art form. The studio films largely ignore this possibility of opening up the screen on the real world. They photograph acted stories against artificial backgrounds. Documentary would photograph the living scene and the living story. We believe that the original (or native) actor and the original (or native) scene are better guides to a screen interpretation of the modern world.[54]

Clearly some things have changed since Grierson wrote the above words in the 1920's. Cinema has given way to a mix of film and video tape technologies. But the principle debate remains the same. Should software production involve complete control of what appears on the screen by professionals, or should spontaneous events in the outside world occur on the screen? Clearly, in either case the producer controls the outcome by virtue of his creative decisions as to when the camera should be turned on and off, what should be edited out of the final production. However, it is also true that the documentarians and the advocates of cinema verity represent an alternative with a commitment to spontaneous participation by nonprofessionals in the determination of the outcome on the screen.

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[53] Forsyth Hardy, Grierson on Documentary (Berkeley, University of California Press, 1966), p. 13.

[54] Ibid., p. 209.

For Coombs and Schramm, spontaneity on the screen would not represent a very high value. They have operated in situations where learning objectives have been handed down from central authorities, in the frame of mind that professionals educators know what is best for their learners. Spontaneous participation by learners, insofar s it might counter the judgment of the authorities, or at least waste valuable time, would probably be considered undesirable.

For Illicheans, however, spontaneous participation in a meaningful situation the essence of education. For Freireans, such participation would be very appealing, if it kept to the topic of probing the social situation of the learners.

Didactic/Dialogue

This dimension of television software deals with the heart of the basic dichotomy between the ideologies of formal and nonformal education. The formal educator tends to assume the role of dispenser of knowledge, the learner assumes the role of passive recipient. This basic classroom state is reflected in the "tele-teacher" format of the major national level formal educational television projects. Clearly, accomplished teachers may employ Socratic questioning in order to help the learners learn more actively. However, the basic orientation is that the content is taught to the learners by the tele-teacher. This is the basic approach taken by Coombs and Schramm.

An Illichean or Freirean approach to television would have to make allowance for a much less directive type of learning. By filming whom and what the community wants to film, the Canadian Fogo Island process, for example, satisfies Illich's desire to see technology in service of the learner's expressive and communication needs. By confronting unresolved community problems, the process satisfies Freire's contention that learning must be based on a dialogue over basic existential problems.

What would be new for Freire in this type of television is the fact that dialogue can take place within the media materials themselves. In his own work, Freire has been restricted to static visuals, such as posters and slides. Dialogue occurs among an audience of viewers, with the media as stimuli. Television allows dialogue to occur both within the media materials and within the viewing audience.

Audio-Visual Sophistication

Communications techniques which can be utilized in television programming are many. Film offers editing effects for contracting or expanding time, for comparing or juxtaposing, for creating feelings of harmony or tension. Fast motion, slow motion, dissolves, wipes, fades, superimpositions are all visual elements which can be used for educational as well as entertainment effects.

Audio experiences which can be presented over television include the entire range of sound effects and music. Both these elements may be blended with the human voice to create moods and atmospheres which can contribute greatly to entertaining and motivating learners.

In the previous chapter, one television educator was quoted who resented the intrusion of these techniques into television teaching. What others refer to as the audio and visual capabilities of the television medium are merely gimmicks for him. Good television teaching is no different from good classroom teaching.

This approach has been taken to its logical conclusion by the Telescuela Popular Americana (TEPA) in Peru. The programming produced by this institution attempts to offer its learners as close as possible a replication of the classroom experience. As a result they attempt to maintain each camera shot for a long time, and to compose each shot so as to imitate the pupil's viewpoint in the classroom.[55]

In this manner the classroom is reproduced on the screen complete with its boring and tedious moments. In the process, television leans over backwards to become what it is not: a shrunken monochrome classroom.

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[55] Wilbur Schramm, The New Media: Memo to Educational Planners (Paris: International Institute for Educational Planning, 1967), p. 49.

Given the fact that television is not reality, it is a shame to make television imitate reality. However, to produce television which takes advantage of all the audio and visual communications capabilities of the medium requires money, and creative people who understand the medium of television, and the ways in which its communications capabilities can be used expressively, entertainingly, and educationally, rather than as gimmicks.

A television advertiser turned television educator has written that his new colleagues fail to exercise "the creative function" in media as did his former colleagues. Educators, being print oriented, fail with media because they fail to see the importance of conceptualizing, planning and orchestrating the communications capabilities of audio-visual media:

> To the infinite variability of language that is possible in print, voices can be added, plus music, sound effects and silences, plus an infinity of visuals involving live action, photographs, animation and combinations of them. Visuals are stressed, condensed and punctuated with dissolves, cuts, freeze frames, camera movements, match dissolves, wipes, zooms, slow motion and speeded up action. Visuals and sounds work together in new ways. The number of variables multiply far beyond anything possible in print, with or without graphics. The degree of creative difficulty, therefore is not less. The creative function remains just as primary.*

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* Reginald G. Damerell, "Establishing the Creative Function in Educational Media" (Amherst, Massachusetts: University of Massachusetts, undated mimeograph), p. 3.

Project Hardware

Hardware costs. Most of the well-known educational television projects in the developing countries have used professional hardware for producing their programming. Since this equipment is produced in small quantities for broadcast organizations in developed countries, it is very expensive. These projects have had outside funding in order to help pay these costs. The Niger project (which reached 800 students) received $1.5 million from France, and an additional $500,000 each year. American Samoa received $2.5 million in capital funds from the United States, along with generous budgetary support from the annual appropriation for American Samoa from the Interior Department. El Salvador received $1 million in start up costs and a $1.9 million loan from USAID. Ivory Coast is expected to receive a total of $18 million in outside aid for its educational television project.[57] In Colombia, 47.6% of the annual program production costs were estimated to be taken up by depreciation and notational interest on capital equipment.[58]

It is understandable how these types of costs build up. A professional television camera costs upwards of $30,000. A single studio may cost several hundred thousand dollars. When a team from the National Association of Educational Broadcasters visited El Salvador in 1967, they recommended purchase of produc-

[57] Schramm, The New Media: Memo to Educational Planners, p. 155.

[58] Ibid.

tion equipment costing $729,000, which would equip four studios."

In the last few years, low-cost equipment developed for emerging educational and industrial markets has come to constitute an alternative to professional broadcast equipment. The new video tape equipment costs as little as $1,500 for a camera and video tape recorder. A basic studio with two studio cameras and a portable unit for location shooting costs approximately $6,000. A studio lavishly equipped with two studio cameras three tape decks, four portable video units, service contract and insurance costs $43,000.[68]

Sound Super 8 Film Cameras are available at prices between $200 and $1,700. Entire sound synchronous editing systems for super 8 film have been developed, which make available the full range of audio and visual effects of the film medium at equipment and materials costs under one-third that of 16 millimeter film. The Kodak Super Eight

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"National Association of Educational Broadcasters, The Feasibility of Using Television for Educational Development in El Salvador (Washington, D.C.: National Association of Educational Broadcasters, 1967), pp. 47-55. The figures are of equipment recommended rather than equipment finally purchased. This is because the published materials on the project as it developed in El Salvador do not break down costs in such a way as to permit listing of production hardware costs.

[68]Neil W. Goldstein, Alternative Television: Status, Trends, and Issues (St. Louis: Washington University, 1974), p. 22.

film video player makes transfer of film material to video tape for television broadcast simple and inexpensive.

The most basic impact of this new technology is to cut drastically the hardware cost of television production. For the $700,000 investment recommended for El Salvador one could equip not one central production complex, but ten regional or local production centers. This would mean that ten times as much programming could be produced and at locations in closer touch with the needs of a diffused population of learners. Alternatively, the same amount of programming could be produced--choosing from ten times as much footage.

In addition to increasing the volume of communications which can be generated, low level equipment can also change the type of communications which can be produced. Insofar as the cost of hardware to produce for a given medium decreases, the cost of access to the medium decreases. As a result, institutions and individuals with new communications objectives, and styles gain access to the medium.

Hardware portability. Until recently, portable professional video tape equipment was not available. With the exception of mobile vans and trucks, broadcasters had to shoot film, if they wanted to get outside the studio. Recently, "portable" cameras and recorders weighing over

sixty pounds have become available at a cost of from $50,000 to $150,000.[61] Minimal sound-film equipment costs $15,000, and weighs approximately thirty-five pounds. Film equipment has the drawback of requiring time to process and of imposing a high operating cost in the form of film, which, unlike video tape, cannot be reused.[62]

Professional out-of-studio equipment has remained expensive, as to be often beyond the reach of educators. A Colombian ETV producer whom the writer interviewed complained that he was often unable to obtain authorization to use the out-of-studio equipment in the possession of the National Television Authority. Commercial users offer high rates, and are able to monopolize use of that equipment.[63]

At the other end of the hardware spectrum, the new inexpensive Super 8 Film and one-half inch video

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[61]Personal interview with the members of a location news crew KSD-TV, St. Louis, Missouri, December 23, 1974. At no time during the taping which I observed did one member of the crew attempt to life the entire mini-camera, the separate camera electronics and the Sony video cassette recorder which made up the "portable" video tape unit.

[62]One television station in Chicago expects to save $200,000 in film and processing costs by moving from 16 millimeter film to portable video equipment in their news reporting. "The Handy-Looky," Time Magazine (September 9, 1974), p. 51.

[63]Personal interview with Enrique Rojas, Inravision, Bogotá, Colombia, October 28, 1974.

equipment is highly portable. Sound Super 8 units weigh under ten pounds, and portable video units weigh under thirty pounds. Both can be carried and operated for long periods by one man.

The advantages of such portability to Freirean and Illichean styles of television are obvious. Insofar as media production equipment is light and portable, it will have a greater chance of being taken to places where people are reflecting upon and taking action regarding their social situation. As media production becomes more capable of taking place in natural situations, with real people as participants, chances increase that media producers will remain in touch with the real communications needs of their clients.

Ease of operation. The degree of skill and training required to operate television production hardware varies greatly from the professional equipment to the new low-level equipment. Professional equipment is highly complex, and cannot be used by nonprofessionals. Super Eight and low-level video tape equipment, on the other hand, is highly automated and can be operated by almost anyone, after an initial orientation session.

This has major implications, not only for the training and personnel costs of a project, but also for the types of programming which will be produced by a project.

Cameramen and technicians can be trained to work with low-level equipment very rapidly. It is not necessary for countries without television experience to import large numbers of foreign experts to man the cameras and switchers for the first few years of a project. Furthermore, operators of low-level equipment are not the scarce human resource that high level technicians are. Finally, when the technical complexity of a media operation, is reduced, greater energy can be concentrated on the higher priority of creating effective communications.

Ease of Maintenance

Professional equipment is extremely difficult to maintain, and requires an expert technical staff to be on call at all times. On the other hand, basic repair and maintenance functions for lower level equipment can be learned by laymen in a very short time.

However, the real reason why maintenance of lower level equipment is cheaper and easier is a function of the drastically lower cost of that equipment. It becomes possible to have duplicates of every sensitive piece of equipment or maintenance-prone piece of equipment in the system. When equipment does break down, it may be sent back to the factory for repair, with a replacement piece coming out of the closet to take its place.

Self-Sufficiency of System

Associated with the maintenance function is the degree to which a production system can function generally independent of reliance on outside inputs. No system is completely self-sufficient, since every country is not going to go into the business of producing every piece of equipment and consumable which their media systems demand. On the other hand, there is a basic difference between a system which requires servicing by a foreign expert every month, and one which merely requires to have a component sent to a foreign factory for repair from time to time.

There are a series of conditions which apply in many developing countries which affect the self-sufficiency needs of a media production system. For example, developing countries can not be assumed to have film processing facilities or printing laboratories available for their media producers. This means that a project considering the use of film must plan to have an in-house film processing facility. Developing countries do not have wall current available in all interior locations where filming will be done. Equipment which can operate without electricity becomes an important consideration. The limitations imposed by conditions in developing countries, and the demands as regards system self-sufficiency will be discussed in greater detail in later chapters.

Conclusion

In this chapter, a number of interlocking dimensions have been developed, along which every ETV project can be analyzed. The dimensions can be grouped into broad topics of: project setting and approach, project software and project hardware.

The geographic, demographic, and economic context in which a project is executed constitutes a prime influence upon the approach which will be taken in developing an ETV system. In El Salvador, the small area, the concentration of population, and the level of rural electriciation and roadbuilding made possible a national ETV system. The institutional context of formal education influenced the methods of production and evaluation. In Tanzania, the context was not conducive to the application of the Salvador model. A larger country, with dispersed populations and little in the way of rural infrastructure, Tanzania called for a more modest, less formal experiment in non-broadcast uses of television.

On the other hand, the project approach can also affect the context. As a result of the nationwide, high-level approach taken by El Salvador, the context which awaits future ETV projects in the country is an entirely new one. El Salvador may be one of the few developing countries where television can be considered as a medium for rural nonformal education. Television receivers are

in place in rural areas, and are accessible. Furthermore, a country whose population has learned from television in formal education may be well disposed toward using television for nonformal education later in life.

The approach taken by a project to production and evaluation has a great impact upon the types of programming or software which will be produced. A formal ETV system like Salvador's, which regularly services the schools, will produce large amounts of programming, in a highly professionalized operation. This will be reflected in the concrete attributes of the television programming. Control of screen experiences will be favored over spontaneous expression. The tone will be didactic rather than of dialogue. Production pressures may reduce the amount of audio-visual sophistication which can be invested in each program.

On the other hand, a lower-level project like the Tanzania year 16 project working outside a strict institutional structure will produce less programming of lower cost. Such programming will tend to incorporate more spontaneous expression, and less professional control of content. The tone of such programming will be less didactic and more oriented toward dialogue because of the closer proximity of the producers to the target audience. There may be the time, though possibly not the expertise, to endow programming with sophisticated audio-visual effects.

The type of software an ETV project produces is influenced by the type of TV production hardware employed, as well as by the general project approach. The volume and cost of software depends upon the cost of purchasing and operating the hardware. The formats which can be produced are likewise conditioned by the hardware. Drama and animation, for example, require hardware with capabilities for special types of camera work. Audience participation in software production, in the form of spontaneous expression and dialogue, is dependent upon equipment which can be taken out of the studio to real world locations, and which is unobtrusive and non-threatening. Audio-visual sophistication in programming can only be achieved by hardware which can produce special effects easily, and without recourse to distant and expensive technical services.

Furthermore, the types of hardware employed in a TV project also affects the types of settings in which a project can operate, the size which a project must attain in order to function effectively, and the methods of production and evaluation which are available. In fact, recent changes in the hardware of television production have operated as a dynamic factor, making possible new types of software and new settings for educational television. Until recently, the only television hardware available was expensive, professional hardware, whose use

could only be justified by large-scale, professionalized television projects. The removal of this bottleneck, the development of a range of low level television tools, has made possible low level participatory programming and nonformal regional or municipal level projects.

Thus, the three types of dimensions of television interact among each other in complex ways. The coming chapters will analyze three ETV projects in light of these dimensions, and point the way toward a general model for NFE-TV. This model will attempt to assess the recent changes in hardware and software in terms of the opportunities they represent for the development of new applications for television in nonformal education.

C H A P T E R I V

THE CASE OF EDUCATIONAL TELEVISION IN EL SALVADOR

Previous chapters have dealt with general philosophies of education and their implications for television programming, and with the many dimensions along which television projects can vary. A number of specific projects have been mentioned. This chapter will deal in some depth with one formal educational television project: the project in El Salvador.

This project, more than the other major national formal education project, merits consideration as a case study in the potential of television for formal education. This project was developed under the leadership of a powerful and energetic Minister of Education with a long standing interest in educational television, and a sincere desire to use ETV to upgrade formal education in his country. Furthermore, geographic and economic considerations in the country were favorable to national ETV.

The general atmosphere of educational change during the years when ETV was introduced was conducive to a vigorous and dynamic use of the medium within the formal

education context. During the same years, the Ministry of Education was internally reorganized. All the classroom teachers utilizing the television classes underwent a one year retraining. The curriculum was completely revised. New written materials were developed for the classroom. A new model of school supervision was developed. A wider diversity of technical training programs for the subsequent grades of high school were developed. Tuition was eliminated. Double sessions were begun in most schools in order to accomodate more pupils. And a new student evaluation and promotion system was instituted.

In other words, television in El Salvador was introduced into a Ministry of Education which had a sincere commitment to change, and a true dynamic of change during the years when television was defining its role within the formal educational system. Such conditions of general educational change had not been present in Colombia or American Samoa, the two previous larger scale formal ETV projects.

In Colombia, no curriculum reform was attempted until the fifth semester of television. The teacher retraining effort consisted of after school broadcasts to teachers and visits by Peace Corps volunteers who helped teachers make better use of television.[1]

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[1]Wilbur Schramm, The Use of Television in the El Salvador Program of Educational Reform: Differences Between This Project and Some Others (Washington: Academy for Educational Development, 1969), p. 6.

In Samoa, the television production effort began at such a high volume so as to absorb most of the project's energies. The first year of the project, televised lessons were extended to all primary schools. In the second year, it was extended to all the high schools. Some 6,000 live programs were produced each year. Some tele-teachers were responsible for executing 20 programs each week, along with the supplementary written materials to accompany the programs.[2] Although there were after school broadcasts for teachers, time and energy for reforms beyond the sheer task of producing programming were in short supply. Under such heavy production pressures, there was also little time for consideration of the optimum role of television in Samoa's formal educational system.

In El Salvador, on the other hand, television was introduced into one grade each year. Each tele-teacher was responsible for three to four programs per week. Lessons were video taped, so they would not have to be produced again live in succeeding years. The pace of introduction in El Salvador, though still rushed, was several orders of magnitude slower than in Samoa. Much more energy could be devoted to monitoring the performance of the production teams. In short, a more profound attempt could be made to integrate television into a major educational reform

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[2]Wilbur Schramm, Big Media, Little Media, p. 129.

by a formal educational system undergoing dynamic change. Therefore, the case of ETV in El Salvador deserves study as a serious attempt to answer basic questions about ETV's potential in formal education in developing countries.

In order to draw out the strengths and weaknesses of ETV for formal education in a relatively favorable developing country setting, the dimensions developed in Chapter III will be used as a framework for analyzing the Salvador project.

A second point of reference for this analysis will be the three philosophies of education developed in Chapter II. The Salvador project is very much in the mold of Coombsian-Schrammian education. Indeed, Schramm and his colleagues at Stanford's Institute for Communication Research were the principal external evaluators of the project. Their ideas had basic impacts upon the project. In discussing these impacts, insights should emerge regarding directions for nonformal educational television.

Project Setting

Educational television had been under serious consideration in El Salvador ever since 1960. Even in those early days ETV was conceived as a major undertaking which would have a leading role in the country's educational system. Walter Beneke, the education minister under whom ETV began, had been ambassador to Japan. While in Japan,

he became impressed by the use of television within that country's educational system. At Beneke's urging, a team of engineers from the Japan Broadcasting Corporation, NHK, visited El Salvador to investigate the feasibility of using educational television in El Salvador. The Japanese confirmed the Salvadoreans' belief that the small size, the topographical conditions, and the linguistic unity of the country made educational television highly feasible. The well developed highway system and the high degree of rural electrification were unusual among developing countries, and made a truly national coverage possible. The investment needed for equipment for production, transmission, and reception of ETV seemed very high. Salvadorean imaginations were stirred but the project was set temporarily aside as uneconomic. The important point is that, from the start, the project was conceived on a large scale.

In late 1963, the National Educational Television Commission was formed. In 1964, a Department of Educational Television was created in the Ministry of Education. However, only in 1965, when Ambassador Beneke returned from his stay in Japan, did these groups begin to act in defining the role which ETV might play in El Salvador.

By the end of 1966, the ETV commission had debated the possible uses of television, and had taken some important decisions. A case had been made extending education with television to those adults and children who had never

finished primary school. The scheme which attracted most support, however, was to use television to upgrade quality and to increase offered enrollments in grades seven to nine, known as the third cycle. Inadequate education at this level was seen as the major bottle neck to development, since it restricted the quantity and quality of middle level personnel for industry.

A second point of consensus was the fact that the country had neither the economic resources nor the trained technicians to embark upon a massive ETV project. Rather, initial efforts should be on a small scale, with a mind toward rapid expansion, if circumstances permitted. Foreign technical and financial assistance was to be sought for the project from the outset.

Finally, the commission also decided that television was also to play a role in assisting the teachers of the seventh to ninth grades, only 20 percent of whom were felt to have adequate training. The teachers would be retrained to act as to serve as television monitors. Thus, the teachers were to be as much a target audience of its reform as were the pupils.

After favorable contacts with the Japanese, USAID, UNESCO, and the World Bank, a breakthrough came at the conference of Western Hemisphere presidents at Punta del Esta in March, 1967. The President of El Salvador heard

President Lyndon Johnson of the United States proposing to support an educational television project which might serve as a pilot project for Central America. President Sanchez Hernandes of El Salvador presented his country's case, and upon his return to his country, encouraged the ETV commission to press forward with USAID officials.

By April of 1967, a team of American experts under contract to the National Association of Educational Broadcasters was in El Salvador to conduct another feasibility study. These experts confirmed previous opinions on the suitability of El Salvador to Educational Television. They recommended that Salvador apply educational television on as large a scale as possible, and that the Salvador project be developed as a showcase project for not only the rest of Central America, but for the rest of the hemisphere as well.[3]

In order to have the largest impact in the country, the NAEB team reasoned, television should be aimed at primary education. In fact, in 1967, there were 13.9 times as many students in the primary grades as there were in the third cycle. The Salvadoreans advocated using television in the third cycle in the belief that better education in these grades would lead to a better trained labor force, which, in turn, would attract foreign investment.

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[3]National Association of Educational Broadcasters, The Feasibility of Using Television for Educational Development in El Salvador. (Washington: National Association of Educational Broadcasters, 1967).

Perhaps even more significant is the fact that the debate was confined to these two options. While the third cycle had a potential audience of 32,700 students as of 1967, and the primary schools a potential audience of 453,100, the nonschool audience was approximately 2,660,000.[4] Of that admittedly heterogenous population, the potential audience for adult basic education, as originally proposed in the national ETV commission, would have certainly been several times larger than either of the school audiences under consideration. That the debate was so confined, reveals a great deal about the formal education bias of educational broadcasters.

Project Size

The reform was directed at the third cycle students, as the Salvadoreans had wished. In 1969, broadcasts began to 32 seventh grade classrooms on an experimental basis. The next year the entire seventh grade received televised instruction and the same 32 classrooms received eighth grade broadcasts on an experimental basis. In this manner, the use of television expanded to the point where television

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[4]These figures are based on statistics taken from Estimados de la Matricula Diurna en Educacion Primaria y Secundaria 1968-1975 y las Necesidades de Aulas y Profesores de Educacion Primaria, 1968-1975 (San Salvador: COPLAN, 1968) as cited in Robert C. Hornik, Henry T. Ingle, John F. Mayo, Emile G. McAnany, Wilbur Schramm, Television and Educational Reform in El Salvador: Final Report (Washington: Academy for Educational Development, 1973), p. 5.

was reaching virtually all the seventh, eighth, and ninth grade classrooms in the country. Complementary aspects of the reform doubled enrollments in these grades. Whereas there had been only 32,70[illegible] students in third cycle in 1967, there were over 65,000 students in these grades in 1973.[5] By 1984, the project is projected to reach 131,000 students in these grades.[6]

The growth of such a large project required substantial external resources. During 1968, pilot programs had been produced in the studios of one of the commercial television stations in San Salvador. Since that station imported most of its programming, its own production facilities were inadequate for high volume educational television production.[7] Within three years, the project would have to be producing enough programming to teach the core curriculum of five subjects in three grades.

USAID agreed to improve this situation through the donation of the equipment for a complete production

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[5]Henry T. Ingle, "Technology and Educational Reform: The Case of El Salvador." Instructional Technology Report (Washington: Information Center on Instructional Technology, 1974), p. 2.

[6]Robert C. Hornik, Henry T. Ingle, John K. Mayo, Emile G. McAnamy, Wilbur Schramm, Television and Educational Reform in El Salvador: Final Report (Washington: Academy for Educational Development, 1973), p. 219.

[7]John K. Mayo, Judith A. Mayo, An Administrative History of El Salvador's Educational Reform (Washington: Academy for Educational Development, 1971), p. 17.

facility. The Salvadoreans were to provide a suitable building for the production center, as well as the center's operating budget. In addition, USAID provided film production equipment, graphic arts materials, and the machinery necessary to produce supplementary printed matter. Finally, transmission equipment and 100 receivers were included in a package that totalled $653,000 in start up costs.

During the first years of the project, USAID provided an additional $400,000 in grant money, a loan of $1.9 million, curriculum and production advisors, and a research team. In addition, an estimated $2 million in funds, equipment and personnel were contributed by other nations and agencies.[8]

Over its first ten years of life, the project, will have cost a total of $10.8 million. Of that money 73 percent will have gone into production of programming 7 percent into transmission, and 20 percent into reception. The sums invested in transmission sound reception sound small only in comparison to the money invested in television production. Transmission of programming will have cost $830,000 and reception costs (i.e. installing and servicing receivers) $2,131,000.[9]

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[8]Schramm, Big Media, Little Media, p. 118.

[9]Hornik et al, Television and Educational Reform in El Salvador: Final Report, p. 219.

In other countries, transmission and reception costs could well be a good deal higher in relation to production costs. El Salvador is the smallest continental country in the Western Hemisphere. As a result, its territory can be covered with less transmission expense than would be the case in any of the other American republics, and most of the other countries in the world. Secondly, El Salvador has an unusually well developed road system and degree of rural electrification for a developing country. Both these factors contribute to lower receiver installation and maintenance costs. Any school in the country can be reached by three hours automobile travel. With electricity present, there is no need for costly generators or batteries which have affected reception costs in other developing country educational television projects.[10]

The major question which lingers on with respect to the size of the El Salvador project, however, is the cost of attempting a national reform. Wilbur Schramm, involved with all the major national ETV reforms, has stated that he has never seen a major project involving core instruction by television without substantial financial

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[10]For example, the Ivory Coast spent over $750,000 to purchase and $500,000 to import batteries for receivers in one year. Stephen H. Grant, "Technology and Educational Reform: The Case of Ivory Coast," Instructional Technology Report, (Washington: Academy for Educational Development, 1974), p. 3.

resources from the outside.[11] In Salvador's case, Schramm reckons total outside funding and assistance valued at $5 million.[12] Another study places the actual financial contributions of outside agencies at $3,790,000.[13] Illicheans concerned with institutions responsive to grass roots needs might be suspicious of a project which required massive infusions of foreign resources for its very existence. Freireans, concerned with education for liberation from oppression would also avoid reliance upon money from an outside power which can be seen to have considerable economic and political stake in the status quo.

Finally, it is important to note that, inspite of large contributions from abroad, the Salvadoreans will pay the majority of the cost of the educational television project in their country. Over the first ten years, when total foreign financial contributions have been $3,790,000. The Salvadorean government will have paid $7,052,000 or nearly 1.9 times as much as the foreign donors. Furthermore, in the years after 1977, the entire costs will be born by the Salvadoreans. In 1980, repayments of loans to foreign agencies must begin.

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[11]Wilbur Schramm, "Television Reconsidered" (Singapore: Asia Mass Communications and Information Center, 1971), p. 13.

[12]Schramm, Big Media, Little Media, p. 118.

[13]Hornik et al, Television and Educational Reform in El Salvador: Final Report, p. 219

The expenses of the Salvadoreans in the ITV project may not represent totally new expenditures, which would not have been made otherwise. For example, the two hundred people in the ITV section of the Ministry were drawn from existing personnel on the Ministry payroll. This avoided the expense of creating all new positions.[14] Nonetheless, there is an opportunity cost associated with allocating Ministry personnel to the ITV project. Had television not been undertaken, these people could have been assigned to other jobs. Other alternative media were not considered, given the long-standing interest in television on the part of the Salvadoreans and the availability of large-scale United States assistance for a television project. Nonetheless, it is important to realize that the decision to use television was not without substantial long-term costs to El Salvador.

Target Audiences

The main target audience for television in El Salvador was the students in the third cycle or seventh through ninth grades. In the year before the reform began, these grades contained 32,700 students. These were a relatively elite group, since six of every seven children who began school had dropped out before finishing sixth

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[14]Ibid., p. 219.

grade.[15] In 1971, tuition fees were abolished, and enrollments increased. By 1973, the television classes were serving 65,000 students.[16] However, as followers of Freire and Illich would surely point out, even this expanded audience represents only 1.5 percent of the country's population of 3.9 million.[17]

Nonetheless, the educational reform did contain a commitment to democratizing education. As the reform progressed, the socioeconomic profile of the third cycle classes did change. After tuition fees were abolished, the cost of attending school fell to a fraction of its former level. For the first time, a seventh grade class contained many students from the villages around the major towns where the schools are located.

This new wave of students in the third cycle came from poorer and less educated families than did the traditional third cycle student. Only 42 percent of the fathers of the new seventh grade class had completed primary school. On the other hand, the eighth and ninth grade classes, still unaffected by the abolition of tuition,

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[15]Ibid., p. 219.

[16]Henry T. Ingle, Instructional Technology Report, p. 2.

[17]Extrapolated from figures cited by CONOPLAN, Indicadores Economicos y sociales (San Salvador: Consejo Nacional de Planificacion y Coordinacion Economica, 1970) quoted by Hornik et al, Television and Educational Reform in El Salvador: Final Report, p. 1.

demonstrated quite different figures. Fifty-one percent of the eighth grade's fathers and 57 percent of the ninth grade's fathers had reached that level.[18]

The new seventh grade also contained more poor children than had previous classes. The Stanford research team decided to use television as an indicator of wealth. They found that only 35 percent of the seventh grade homes had a television set, whereas 49 percent of eighth graders and 51 percent of the ninth graders said that there was a television in their home.[19]

Over 90 percent of the parents interviewed by the research team felt that their own levels of education had been insufficient. With their education, the fathers of the students felt themselves to be under continuous threat of unemployment. They wanted their sons to have the job security which, they felt, comes with formal education. The research team concluded that the parents' feelings did represent an important influence on the way in which the students viewed themselves.[20]

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[18]Robert Hornik, Henry Ingle, John K. Mayo, Judith A. Mayo, Emile G. McAnany, Wilbur Schramm, Television and the Educational Reform in El Salvador. Report on the Third Year of Research (Stanford, California: Institute for Communications Research, 1972), p. 14.

[19]Ibid., p. 14.

[20]Ibid., p. 70.

A second major target audience for the television lessons was the classroom teachers who taught the third cycle students. One of the major conclusions of the Educational Television commission during the early planning stages of the project had been that only 20 percent of the third cycle teachers possessed adequate training. They could, however, function productively as television "monitors."[21]

During the life of the reform, all third cycle teachers were scheduled to receive a one year retraining. In addition, there were two daily influences upon their classroom performance: television lessons and the supplementary written materials. After the year long retraining, these ongoing stimuli would reinforce and consolidate improvements gained during the training.

One of the attitude measures administered periodically by the Stanford research team asked teachers to agree or disagree with the following statement: "Classroom teachers improve their teaching methods by observing the television teacher." In 1969, when all the teachers

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[21] John K. Mayo, Judith A. Mayo, An Administrative History of El Salvador's Educational Reform, p. 9.

were new to ITV, 78 percent of the teachers agreed with the statement. By 1971, when many of the teachers polled had already worked with the tele-lessons, the level of agreement with the statement fell to 65 percent. Still, 75 percent of those in their first year with ITV were in agreement with the statement. On the other hand, only 45 percent of those who were in their third year with television agreed.[22] This would suggest that teachers did derive benefit from the lessons, but that this benefit tapered off as their own abilities and confidence in their abilities improved.

Indeed, Henry Ingle, one of the research team, confirmed that notion in an interview with the writer. He maintained that teachers improved their classroom performance a great deal from viewing the televised lessons. They came to feel that they could teach as well as the tele-teacher. In the periodic meetings with the ITV staff, they requested that the television teacher turn some of his functions over to them, and begin to seek out a new role for the television lessons. As a result, Ingle said, television moved increasingly away from carrying core curriculum, and toward supplementing the efforts of the classroom teacher.[23]

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[22]Robert Hornik, Henry Ingle, John K. Mayo, Judith A. Mayo, Emile G. McAnany, Wilbur Schramm, Television and Educational Reform in El Salvador: Report on the Third Year of Research, pp. 50-53.

[23]Personal interview with Henry T. Ingle, Academy for Educational Development (Washington: January 29, 1975).

Rewards

The rewards offered by a television project should be considered at two levels: the rewards expected by the viewers, and the rewards actually delivered to the viewers. In the case of a long-term program such as the third cycle educational television, consideration of these phenomena is complicated by the fact that rewards expected may vary over time. Furthermore, rewards are delivered over a long period as well. Fortunately, the research on the Salvador projects covers five years of the project's life, which is sufficient to give reasonable indications on these matters.

Since ETV has been an integral part of the larger education reform, the rewards expected of educational television can not be differentiated from the rewards expected of formal education in general. It is not possible to determine with scientific precision to what degree student's expectations had been heightened by the reform's less punitive promotion system, which allowed more students to advance from grade to grade. Nor can one know with certainty how the upgrading of classroom teaching through retraining and the presence of the tele-teacher as a model may have affected student expectations. One can only say that television was a major factor in the reform, and cannot help but have played a major role in affecting the students' expectations from their schooling.

One feature of the students' expectations is that they had an amazing desire for more formal education. Furthermore, that desire grew over time, as the students passed through the third cycle. The first group of students sampled after the beginning of the reform entered with already high aspirations for formal education. All but 11 percent of them planned to go beyond the third cycle. By the time this group graduated from the ninth grade, all but 2 percent were planning to continue their education. What is even more striking is the increase in the number of students who planned to finish university. Whereas that figure had been 36 percent when the group began the third cycle, it had risen to 55 percent by the time they graduated.[24]

Occupational expectations were closely linked to educational aspirations. The sample from the first group of reform students had very high occupational aspirations. When they entered the third cycle only 7 percent would be contented with jobs requiring a third cycle education. Fifty-nine percent aspired to jobs which required some secondary education beyond the third cycle. Thirty-four percent aspired to jobs requiring post-secondary or professional training.

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[24]Hornik et al, Television and Educational Reform in El Salvador: Final Report, p. 106.

By the time this same group had graduated, the number satisfied with jobs requiring only ninth grade education had fallen to 2 percent. The number aspiring to jobs requiring additional secondary education had fallen to 54 percent, and the number aspiring to jobs requiring post secondary or professional training had risen to 44 percent.[25]

These high expectations could not be met by the Salvadorean educational system or the economy. The Ministry of Education had decided that only 60 percent of the graduates from the ninth grade would be allowed to continue their education. Most of these students would be steered into terminal technical high schools. The Ministry's hope was that the other 40 percent would change their notion of third cycle education as a stepping stone to further education, and would come to see it as an acceptable terminal point for their education.[26]

Implicit in this was the assumption that there would be jobs for these students, after they finished third cycle. The major assumption behind the entire educational reform was that the country's major bottleneck to development was the lack of middle level technical personnel.

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[25]Ibid., p. 108.

[26]Ibid., p. 104.

It was further assumed that a modernized and expanded third cycle would create a pool of well educated workers which would attract foreign investment.[27]

By 1972, technical jobs were not available to the first group of graduates from the reform. Students tended to continue their schooling. If the country's high unemployment rate continued, and if there were no major economic expansion to accomodate the larger numbers of third cycle graduates being produced by the reform, the reform would inevitably fail to deliver on the long-term rewards expected by the students.

In terms of the shorter term rewards expected by the students, the reform was able to perform. As a means of fulfilling their occupational goals, students generally aspired to more formal education. In fact, of the sample of first graduates of the reform, 86 percent continued their education beyond the third cycle.[28] The reform contributed to the realization of these ambitions by providing a higher promotion rate. For example, in 1968, before the reform had been implemented in the seventh grade, 64 percent of seventh grade students were promoted. In 1970, after the reform had been implemented in all the

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[27]Hornik et al, Television and Educational Reform in El Salvador: Final Report, p. 269.

[28]Henry T. Ingle, Television and Educational Reform in El Salvador: Follow-up Study on the First Group of Ninth Grade Graduates (Washington: Academy for Educational Development, 1973), p. 5.

country's seventh grade classrooms, the promotion rate had risen to 81 percent.[29] It is not possible to know to what degree this is the result of better teaching and learning, and to what extent it may represent lowering of standards. However, from the point of view of a student who's immediate objective is further education, this question is not of utmost importance.

In terms of the more immediate rewards of television perceived by the students, the reform also functioned rather well. On an attitude questionnaire, which was periodically administered, students were asked whether they agreed with the following statement: "You learn more during class hours with television than during class hours without television." Responses at the beginning of exposure to television tended to be very high, with samples at the beginning of successive years responding 78 percent agreement, 82 percent agreement and 72 percent agreement.

As students' familiarity with television increased, the responses grew less positive, reaching figures of 72 percent, 66 percent and 63 percent by the end of the testing period.[30] Nonetheless, these are relatively positive

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[29]Robert Hornick, Henry Ingle, John K. Mayo, Judith A. Mayo, Emile G. McAnany, Wilbur Schramm, Television and Educational Reform in El Salvador: Report on the Third Year of Research, p. 64.

[30]Hornik et al, Television and Educational Reform in El Salvador: Final Report, p. 78.

responses to a basic question about students' reaction to television. The Stanford research team felt that these downward trends were to be expected:

> Certainly these were pessimistic trends. Perhaps, however, they should have been expected. Many students entering seventh grade had no experience with instructional television. Their prior television experience had been with Popeye cartoons, Bonanza adventures and soap operas. Who can blame them for high hopes for ITV? That teleseries made with low budgets in a crowded studio by inexperienced tele-teachers could not match students' expectations should not be surprising.[31]

Thus, the rewards which the instructional television offered were not the immediate pleasures of an entertainment oriented program, but the longer term benefits of more learning, higher rates of promotion, more formal education, and finally, employment in technical middle-level positions. From the Coombsian point of view, these rewards are challenged only insofar as they are not delivered, insofar as graduates are not successfully fed into advanced education and technical middle-level jobs. In fact the head of the Stanford evaluation team expresses serious doubts on these questions.[32]

Followers of Freire and Illich would not only question the degree of fit between the third cycle, the high schools and the economy. They would question the

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[31] Ibid., p. 80.

[32] Henry T. Ingle, Television and Educational Reform in El Salvador: Follow-up Study on the First Group of Ninth Grade Graduates (Washington: Academy for Educational Development, 1973).

very premise upon which the educational and economic systems are built. In their eyes, the educational reform could be seen as an attempt to serve the needs of foreign investors rather than the individual Salvadorean student. In their eyes, the system would make El Salvador's economy and educational system a servant of multinational corporations--if it were to succeed. Even by Ministry Planners foreign investment is seen as the engine that will propel the rest of the system. Foreign investment attracted by Salvador's trained labor force will create jobs for third cycle graduates, and thus make a success of the reform. In view of the large number of countries which multinational companies can choose from, Freireans and Illicheans might doubt whether El Salvador would receive enough investment to generate employment for rapidly increasing numbers of third cycle graduates.

Even if this were possible, it would be a disturbing arrangement for Illicheans and Freireans. They might feel that this type of education places the student not at the center of the educational process, not as the primary client, but as the lowly recipient of a treatment devised at the highest levels of government policymaking. Furthermore, this type of education aims to funnel the graduate into an industrial system controlled outside the country, whose needs are not necessarily congruent with

the needs of Salvadorean society. Freire might be disturbed by the individualistic values of the graduates produced by that system. Eighty-six percent of the sample of first reform graduates agreed with the statement, "It is very important to succeed economically in life." Ninety-four percent agreed that, "It is important to reach a comfortable standard of living." Sixty-six percent agreed that, "It is preferable to be detached from the many problems of society."[33] Students holding these attitudes could not be the graduates of an educational process to which Freireans or Illicheans could lend their approval.

Project Objectives

The El Salvador reform was an attempt to improve the contribution of the formal educational system of a nation to the overall development goals of its government. Planners felt that the major bottleneck to development in El Salvador was the low quality and small quantity of personnel being prepared to occupy middle-level positions in industry. Therefore, the reform sought to increase the quantity of graduates from the third cycle, and to improve the quality of the education they received.

Minister Beneke criticized the curriculum of the seventh, eighth, and ninth grades for its reliance on

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[33]Ibid., p. 24.

memorization of facts and concepts which bore little relevance to the needs of the country or of the students. For a curriculum which produced "human archives," Beneke proposed substitution of a modern curriculum fostering the development of reasoning and abstract thinking abilities. The Minister felt that such training would make graduates better able to function in industry.

Another objective of the reform was to compensate for the inadequate training of the teachers of third cycle students. The tele-teacher would extend excellent teaching into schools where the classroom teacher lacked training. The written materials of the curriculum would also help compensate for inadequate training. Finally, each third cycle teacher would receive a full year's retraining during the course of the reform.

As Freireans and Illicheans would point out, these objectives remained very much within the tradition of formal education, and within the larger objectives formulated by the nation's economic planners. The needs of the reform's educational clients were not tackled directly, but indirectly. In a study of the first graduates from the reform, only 47 percent of the sample agreed that their education had "helped me develop job skills for possible future employment." Only 33 percent felt that their education "provided me with ideas for possible jobs and careers."[34]

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[34]Ibid., p. 19.

The reform had succeeded in enrolling and promoting more students, in modernizing the curriculum, in raising the students' aspirations for more formal education. However, it had not provided for additional formal education at higher levels. Nor had it prepared students for specific middle-level jobs. Nor had the country succeeded in attracting sufficient foreign investment to create those jobs. The Stanford research team forsaw potential difficulties ahead when the graduates of the reform realized that there would not be sufficient places for them either in the high schools, the universities or the professions.[35]

Methods of Production

The feasibility study teams from both the Japanese Broadcasting Corporation (NHK) and the American National Association of Educational Broadcasters (NAEB) recommended highly professionalized equipment and production procedures. It is important to remember that the whole option of lower-level television production of television programming did not emerge until after the Salvador project had already purchased its hardware.

Although El Salvador was able to muster the necessary professional equipment with assistance from other countries, the country was not disposed toward importing large numbers of television professionals to man this

[35]Ibid., p. 25.

equipment. Furthermore, a pool of trained television professionals did not exist in El Salvador. The project's solution was to recruit personnel from the Ministry's own ranks and to train these people on the job.

This strategy had several advantages. First of all, the direction and control of the project remained in Salvadorean hands. As Wilbur Schramm has noted, this was a unique feature among the large scale educational television projects of the 1960's.[36] Secondly, the project was staffed by people with extensive experience in the formal educational system which ETV was to serve. The personnel had an intimate knowledge of the Salvadorean student. Finally, drawing on existing personnel meant that the Ministry did not have to tax its already strained budget by hiring new people.

This strategy also had some disadvantages. None of the technical personnel had any serious experience in television production. As a result criteria for hiring could bear little resemblance to the required competencies. In choosing between job applicants, heavy emphasis was placed on academic credentials. All personnel for production teams were required to have either a university degree or a superior normal school certificate. Achievement

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[36]Schramm, The Use of Television in the El Salvador Program of Educational Reform: Differences Between This Project and Some Others, p. 5.

tests in various subject matters of the curriculum were administered. Applicants for the post of tele-teacher were given screen tests.[37] With the exception of this final measure, the criteria for hiring bore little relation to the practical skills necessary for television production.[38] Within eighteen months of the formation of the ETV production staff, an entire seventh grade curriculum had to be ready to be aired. The resulting production pressure meant that ETV staff had no time to engage in those training activities which the few trained foreign advisors attempted to offer. Clear program objectives and standards of production were neglected in the attempt to get programs made on schedule. It was not until the fourth year of broadcasting that ETV lessons were built upon concrete learning objectives.[39]

A final disadvantage of this method of recruiting and training production personnel, is that the ex-teachers who made up the ETV staff saw little reason to visit classrooms in order to stay in touch with their target audience. They felt that they knew the mentality of the Salvadorean

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[37]John K. Mayo and Judith A. Mayo, An Administrative History of El Salvador's Educational Reform, p. 26.

[38]Ibid., p. 26.

[39]Hornik, Television and Educational Reform in El Salvador: Final Report, p. 245.

student, and did not need to make periodic visits to classrooms where television was being utilized. Their tendency to lose contact with their target audience was aggravated by the fact that the automobiles and gasoline necessary for such trips were frequently lacking. On the other hand, the Stanford research team felt regular classroom visits were necessary, since the post-reform third cycle student was quite a different person from the students the television producers had taught before the reform.[40]

As their experience accumulated, the production teams worked out procedures for assembling tele-lessons. Each team consisted of five people: two subject matter specialists, a tele-teacher, a producer-director, and a production assistant or coordinator. The subject matter specialists worked from the new Ministry curriculum to prepare lists of objectives for the series of tele-classes. They also defined the concepts to be covered in each tele-class, and the supplementary written materials for the broadcasts. The tele-teacher prepared the script, and delivered the script on the air. The producer-director was responsible for the shooting script, and for the recording of the program in the studio.

Each team was responsible for one of the five subjects in the curriculum (Spanish, English, Math, Science, Social Studies). This meant that each team had to prepare three or four twenty minute programs per week, along

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[40]Personal interview with Henry T. Ingle.

with supplementary written materials. Over time the amount of production required of each team decreased to an average of two to three programs per week.

Over time, a more professionalized approach to planning and production of lessons also evolved. In 1974, the ETV management published the Manual of Procedures for the Development of Teleprograms and Instructional Materials. This document contains a series of steps so operational and complete as to constitute a virtual methodology for elaborating official Ministry curriculum into a combination of tele-classes and accompanying written materials.

The highly professionalized set of procedures is divided into four stages: conceptualization, preparation, execution and evaluation. The process is described as the product of six years experience in building curriculum into televised lessons.[41] Initially, a series of three charts are prepared, evaluated and revised in a process of translating units of Ministry curriculum into themes and objectives for series of tele-classes.

When these charts have been approved, the ficha base or basic chart on each individual program is prepared. This chart contains the theme and title of the show, the

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[41]Direccion de TV.E. Manual de Procedimientos Para el Desarrollo de Teleprogramas y de Materiales de Instruccion. (San Salvador: Ministry of Education, 1974), p. 3.

specific learning objectives of the lesson, the entering competencies, the development of the lesson, and the follow-up exercises for the classroom teacher. The section on the development of the lesson is further broken down into sections including related knowledge which has previously been taught, content of the present lesson, and learning experiences.

The manual recommends that learning experiences be developed with a variety of points in mind:

1. Development of one theme through a variety of approaches
2. Use of clear and logical sequences of learning experiences
3. Use of situations drawn from real life
4. Emphasis on the learning process, rather than its product
5. Continuity of learning from one tele-class to the next
6. Interrelation of specific objectives[42]

After evaluation of the ficha base by the Evaluation section, meetings of the production team plan the execution of the lesson. A script is developed, visual resources are collected and generated. Finally, the show is taped. All these procedures are treated with equal thoroughness in the Manual.

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[42]Manual, pp. 14-15.

To summarize, one might note that the project began with professional equipment, with a commitment to function in a professionalized manner. Since professional personnel were not available, former teachers assumed the positions of producers and technicians. Through informal, on the job training, professional procedures evolved over time. The aim was elaboration of Ministry curriculum into tele-lessons and supplementary written materials. No value was placed upon participation by the target audience in the generation of materials.

Formative Evaluation Methods

The communications process is not completed by the production and transmission of a message. Until the communicator learns of the audience response to his communications and incorporates that information into the production of subsequent messages, the process remains incomplete. Of course, the type of audience "feedback" which is obtained can vary in a number of ways. The previous chapter spelled out a number of formative evaluation procedures which constitute various types of feedback. The Salvador project has worked with a number of these techniques.

Initially, the project relied upon surveys of general attitudes toward television, which were administered

to teachers and students at the beginning and end of each school year. Another questionnaire asked a random sample of teachers their reaction to specific program series. The instruments were constructed to as to reveal strengths and weakness of the various production teams.[43] In addition, there were tests of pupils' cognitive learning at the end of the school year. All of these measures were seen as insufficient feedback for the production teams.

None of the above instruments could help producers with the types of short-run, specific information necessary for making decisions on lesson development and program production. Producers felt they needed to know which concepts within each content area were proving difficult for students. Surveys on attitude may have told much more about which programs students liked, rather than which ones they learned from. Year end achievement tests of learning measured the long-term impact of the entire educational process, not the short-term impact of an individual tele-lesson.

Therefore, a new technique was introduced in 1970, which could supply short-term and specific information.

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[43]Ana Maria Merino de Manzano, Robert C. Hornik, John K. Mayo, Feedback on Student Learning for Instructional Television in El Salvador. (Stanford, California: Institute for Communication Research, 1971).

Short tests began to be administered periodically over television. This avoided the tedious and time consuming process of physically distributing written tests. A sample of fourteen classrooms would be selected for rapid feedback of results. Members from the research team would be present in these classrooms for the test. The multiple choice scores would be calculated on the spot, and delivered into the hands of the researcher, who would return to the evaluation office in the capital, which, given the favorable geography of the country, was never more than three hours away by car.

While most of the scores trickled into the office slowly, data analysis on the sample of 14 classrooms began the same day. Results were delivered to the production teams within three days. Production teams then incorporated these results in the development of upcoming tele-lessons. However, this type of feedback was also held to be insufficient.

While a tele-test could tell producers which objectives were being learned easily and which were causing difficulty, it could not tell producers which ways of communicating a given concept might be more effective than another. Nor could it indicate which production styles were more interesting or appealing to students. Nor could it enable producers to test before a finished product had been assembled and broadcast. Because of these limitations,

the Stanford research team was criticized for not having generated information which was directly useful to ETV decision makers.[44]

In 1972, the Stanford research team devoted much energy to developing practical methods for evaluating programs before they were broadcast, and in ways which might allow answering of some of the questions concerning alternative presentation styles, interest and appeal levels. A consultant from the Childrens' Television Workshop (CTW), which had pioneered several formative evaluation techniques in the creation of Sesame Street was brought to El Salvador.

The Salvador project adapted two CTW techniques to their needs. The "distractor technique" involved playing a video tape of a program while projecting slides at one side of the television screen. A trained observer would record when the childrens' eyes remained on the tele-lesson and when they wandered to the "distractor." Five groups of five randomly chosen students were tested with each tele-lesson. In this way, the production teams could be told what parts of their programs were attracting and maintaining the subject's interest, and what parts were not.

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[44]Hornik, Television and Educational Reform in El Salvador: Final Report, p. 257.

A second technique tested comprehension. A group of children were shown a video tape of a lesson with both audio and video channels operating. They then were shown the same program a second time without the audio. Observers would stop the tape at key points and ask the children to explain what was happening.

The head of the research team during 1972 noted that these tests represented the first attempt the project had made to supplement the subjective reactions of the producer, the tele-teacher, and occasionally the classroom teacher in determining how children might best be communicated with by television. This was the project's first attempt to base production decisions on objective and valid criteria.[45] Although these techniques yielded many useful results, they were not continued beyond Ingle's tour of duty in El Salvador which ended in 1973. Project personnel told Ingle, during a recent visit to El Salvador, that they appreciated the value of this type of testing and fully intended to return to it.[46]

In the meantime, the project has adopted another type of formative research on television programming which

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[45]Henry T. Ingle, "Un Bosquejo del Proyecto de Teleclases Pilotos" unpublished mimeograph (San Salvador, Direccion de TV.E., 1972), p. 1.

[46]Personal interview with Henry T. Ingle.

is in use at this time. The current procedure consists of four tests, one devoted to technical considerations and three to educational aspects of programming. The first educational evaluation is conducted by the evaluation section, and is a logical test of the programs objectives and their elaboration. The evaluator considers how well the content suits the objectives, how difficult the content is in relation to the students' level of knowledge, whether the learning experiences are presented in a logical sequence.[47]

The second educational evaluation involves playing a tape of a program to a sample of children who are brought to the ETV center. The children are then asked to write in their own words, what they remember from the lesson, what they liked about the lesson and why, what they didn't like and why. The technique is interesting for its commitment to open-ended participation by students. The head of the evaluation section told the writer that, after experimentation with a number of questions, the team had arrived at a wording which elicited much response from the students.

Two basic questions about this measure should be considered. The writer asked how children were chosen

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[47]Manual de Procedimientos para el Desarrollo de Teleprogramas y de Materiales de Instruccion (San Salvador, Ministry of Education, 1974), Annex No. 12, pp. 50-52.

for this test, and whether their willingness to express themselves was affected by being taken from their environment to a large ETV studio. The head of the evaluation section replied that the children were chosen from one school which happened to be near the ETV center, and that they were accustomed to being in the studio.[48] One might ask how representative the responses of such students would be. On the other hand, formative evaluation is often forced to compromise on academic rigor in order to obtain quick practical results.

The third educational evaluation of a program occurs in a typical classroom at the time of broadcast. In this test, the program is evaluated together with the written materials which accompany it.

The scores a program receives on these three evaluations are added to the score on the evaluation of technical quality. Based on the combined score, the evaluation section decides whether a program can be left as it is for use in succeeding years, whether it requires specific changes, or whether it must be completely redone. The evaluation head estimated that approximately 20 percent

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[48]Personal interview with Jesus Marcos Soriano, head of the Evaluation Section Educational Television Center, Ministry of Education, San Salvador, El Salvador, November 11, 1974.

of the programs passed these evaluations in tact, 40 percent required some changes, and 20 percent had to be redone completely.[49]

Thus, over the seven years of its existence, the television project in El Salvador has experimented with a number of techniques for formative evaluation of its television materials. In comparison with the framework for formative evaluation presented in the previous chapter, however, it must be recognized that the project has missed two broad categories of formative evaluation, needs assessment, and evaluation of objectives. For Illicheans and Freireans, participation by the learner population in these stages is crucial. For a formal education project, working from an official ministry curriculum, participation by learners in determination of educational needs and objectives is impossible.

Software

Production has centered largely on one grade each year. The introduction of television in the schools came one grade at a time. Once programs had been produced on video tape, for a given grade, they could be reused the following year. The next year, production would center on the new grade being introduced. Tele-classes were

[49] Ibid.

produced in five subjects, with a frequency which began at three to four programs per week, and has since decreased to between two and three programs per week. Since there is one production team per subject, the weekly production load is forty to sixty minutes for each team, and over four hours for the group of five teams. As is stated above, this places the pace of production in El Salvador below that of both Ivory Coast and Samoa. Nonetheless, the production pressure in El Salvador is considerable, especially in light of Salvador's desire to concentrate on upgrading quality of production through formative evaluation.

Production costs per hour range from $1,280 per hour to $1,600, depending upon which figures are cited. This is approximately the same as production costs in Samoa, which are estimated at $1,500 per hour.[50] However, the ETV project in Samoa reaches approximately 6,600 students, and the project in Salvador reaches approximately 65,000.[51] The production costs per hour per student are approximately ten times as low in Salvador as they are in Samoa.

Production format in El Salvador is the standard tele-teacher model, incorporating artwork, demonstration

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[50]Schramm, Big Media, Little Media, p. 144.

[51]Ibid., p. 139.

models, still pictures and film. Whereas the first few years of production involved mostly "talking head television," the project seems to have made its programming more lively in recent years. Presently, most of the screen time is said to be devoted to things other than shots of the tele-teacher. Still, however, children from the target audience do not generally appear except in the role of students in the studio class.[52]

As a result of the procedures described in the production manual, what appears on the screen is tightly controlled, and offer little chance for spontaneous participation by the target audience. Programs tend toward the didactic rather than the dialoguic. This feature is a direct outgrowth of the tele-teacher model, and the attempt to operate the television like a classroom. As a matter of pedagogy, however, there is an attempt made to raise questions during the lesson, and to have students discover the answer rather than to dictate it to them. Part of the evaluation built into the process of script development entails checking to see that the presentation of concepts in the tele-lesson is not judged to be dogmatic.[53]

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[52]Personal interview with Henry T. Ingle.

[53]Manual de Procedimientos para el Desarrollo de Teleprogramas y de Materialles de Instruccion, p. 21.

According to Ingle the level of audio-visual sophistication of the programming has increased in recent years. The writer was able to confirm this in an informal way, in conversations with the head of the film and photography section at ETV. This section has produced dramatic film sequences, documentaries, and some animation for insertion into the tele-lessons. Over the first nine months of 1974, production of the department was as follows:[54]

	Filming Jobs	Editing Jobs	Animations	Still Photos
January	18	20	3	1,080
February	25	25	8	650
March	30	30	7	720
April	7	15	4	410
May	21	22	10	520
June	23	23	6	1,160
July	21	21	2	630
August	12	12	-	260
September	15	17	4	390
Total	172	185	44	5,820

The most immediate conclusion from above is that the film and photography section is primarily a photo lab. The head of the department stated that, his section would like to do a great deal more filming, but simply does not have sufficient equipment, personnel, or budget to expand. The films the section produces are generally five to ten minutes long. Animation, he said, are much shorter, since the process is very time consuming. The department does not possess professional animation equipment.

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[54]Personal interview with the head of the Film and Photography Section, ETV Center, Ministry of Education, San Salvador, El Salvador, November 11, 1974.

In order to obtain a rough notion of the impact of the film and photography department on the variety and audio-visual sophistication of the average tele-classes, one might assume an average of twelve twenty minute programs produced per week. If one takes the number of editing jobs to be equal to the number of film clips delivered to the production teams, one can obtain a profile of the average program's visual resources.

In the average week, the department would produce five film clips, meaning less than one out of every two shows could have a film insert. In the same average week, the department would produce 1 animation, and 162 still photos. In other words the average show could have no film, no animation, and 13 still photos to liven up the tele-teacher format. It would seem that in spite of recent progress ETV has yet to liberate itself from the studio in El Salvador.

Hardware

Ultimately, the reason why the El Salvador project is confined to the studio is due, in part, to the type of hardware which has been purchased. The project has two studios full of high level professional equipment. Each camera costs over $25,000. The NAEB equipment recommendations included $728,000 in studio television

equipment and a total of 25,000 in film equipment.[55] The project now does possess more film equipment than that sum would purchase. Although there are three professional 16 millimeter film cameras in operation, resources for generating materials in the real world environment are far less than those confined to the studio environment.

The only equipment possessed by the ETV project which is portable is the 16 millimeter film equipment. There are no mobile video units, or portable television equipment. The portable equipment which the project does possess is expensive professional equipment, which cannot be taken into situations where it might undergo risks of being stolen or damaged. Since portable equipment is scarce it would seem doubtful that the equipment could be used to film spontaneous expression by nonprofessionals, since this type of communication can be slow to occur and unpredictable.

Ease of operation is not a feature of professional film equipment. There is no automation of exposure, film must be loaded into complicated magazines. In the case

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[55]The amounts and costs of equipment actually purchased were not available to the author, neither from the literature on the project, nor from project officials. The NAEB recommendations do give an indication of the relative priorities placed on studio versus non-studio equipment.

of sound filming, cables must be connected properly between camera and tape recorder, and achieving syncronization of sound and picture can be a problem for nonprofessional operators.

Maintenance of film equipment of this type is a problem. While the writer was visiting the film and photography section, one of the three cameras was out of operation. The camera had been sent to the factory in the United States several months earlier and had not been returned.

The television equipment is highly sensitive and highly complex. Heat and humidity during the wet season and dust during the dry season have created maintenance problems for the project. The studio air conditioning system had to operate a full capacity for long periods, creating further problems. In addition, unstable electricity and water supplies compounded maintenance problems.[56]

Within the above limitations, the technical system in El Salvador was able to operate as a self-contained system, without day to day dependence upon outside or foreign technical services. Of course, this was possible

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[56]John K. Mayo, Judith A. Mayo, An Administrative History of the El Salvador's Educational Reform, p. 22.

only because of the high level of foreign financial and technical assistance in mounting and maintaining the technical system.

Summary

El Salvador's ETV project represents a positive example of television in the service of formal education in a developing country. Several conditions make the country particularly suited to television in a way that most developing countries are not. The country is small, and well covered by highways. There is a high degree of rural electrification, which removes the need for generators or batteries to power television receivers. The ETV project had dynamic leadership, support from the top of the Ministry, and large scale funding from outside.

Television seems to have succeeded in delivering higher quality formal education to more students in the third cycle. Television did not break away from the formal classroom mold, however, and did not solve the students' major problem: employment. It does seem to have contributed to an increased appetite for formal education and an ambition for professional careers, neither of which can be provided by Salvador's educational or economic systems.

Television seems to have contributed to the achievement of short term educational objectives, but to have failed to come to grips with the more basic needs of the learners.

It is on these grounds that the project would be most severely attacked by Freireans and Illicheans. If the medium had been used to investigate the learner population and their felt needs, to induce them to deal with their own basic life situation, these shortcomings might have been avoided. The next chapter will deal with a type of project which is oriented specifically toward these more Freirean and Illichean objectives. The methods of production and evaluation, the types of software and hardware involved in such projects will be shown to be radically different than the case of ETV in El Salvador.

CHAPTER V

THE CASE OF SKYRIVER COMMUNITY TELEVISION

The application of television dealt with in this chapter represents a polar opposite to the case of formal ETV in El Salvador. The Skyriver project drew its inspiration not from the field of formal education, but from two diverse areas: community development and documentary film. The experience of Canada's National Film Board in documentary film and participatory communications was incorporated into the community development activities in an Alaskan village. The purpose of the media materials was to express the needs, thoughts and feelings of villagers for internal community decision making and for presentation to government decisionmakers. Generating these materials yielded a communications process beyond the realm of conventional television production techniques.

Many of the media materials which emerged from the projects described below were never broadcast. Many were produced with photographic film technology rather than with electronic video tape television technology. Nonetheless, these materials do use the audio-visual language of television. These materials have the capacity of being broadcast over television. This study is an attempt to

broaden the conception of educational television, in order to derive a new approach to television for nonformal educators. Therefore, the products of the Skyriver project, whether on film or video tape, whether distributed physically or by broadcast, will be considered television software.

The Salvadorean ETV project and the Skyriver project differ along all of the dimensions developed in previous chapters. Whereas the former remade its media setting by installing and maintaining high-powered transmitters and an extensive network of television receivers, the latter worked within the constraints of the existing setting. Whereas the former operated on a large scale, the latter was a small scale undertaking. Whereas the former aimed at school audiences, the latter concentrated on nonschool audiences.

With regard to objectives and methods, the two cases are also polar opposites. Whereas the Salvador ETV project concentrated on cognitive learning of centrally controlled content, Skyriver emphasized affective learning of content which emerged during the production process. Formal ETV's methods are highly professionalized, community television's are highly participatory. This is true of methods of evaluating programming as well as methods of producing programming.

The software produced by community television

projects are low volume, low cost, spontaneous, dialogue, and audio-visually unsophisticated. This contrasts with the high volume, high cost, controlled, didactic, and audio-visually sophisticated programming produced by large-scale formal ETV projects.

Finally, the hardware utilized by the two different types of projects is also radically different. Large-scale formal ETV projects have used primarily professional television equipment, which is complex, expensive and anchored to an air-conditioned studio. Community television projects have utilized the emerging low-level, portable, and inexpensive video tape technology.

Indeed, it is this hardware (which has emerged since the planning stages of the ETV project in El Salvador) which has made possible the long list of innovations detailed above. In order to obtain an idea of the extent of these innovations, and of the opportunities they afford nonformal educators, community television will be discussed in terms of two specific cases: the Fogo project and the Skyriver project. Both will be analyzed in relation to the dimensions of educational television.

Project Context and Approach

Setting. The first case refers to a project executed on Fogo Island, which is off the coast of Newfoundland. The area does possess roads and electrification. Some 70 percent

of the households on the island had television sets while the project was going on. It can be assumed that the population was well accustomed to the audio and visual conventions of film and television. In other respects, however, the setting does resemble that of many developing countries.

The residents of Fogo Island are poor. During the time of the project, some 60 percent of the population was out of work and on government assistance.[1] They are rural dwellers, quite isolated from the rest of Canada. Even on the island, the ten small communities where people lived did not communicate freely, or feel an identity as Fogo Islanders.

After this project ended, the "Fogo Process" was used in many rural isolated areas of Canada. Extension workers have traveled with video equipment by boat up the Labrador Coast, and by snowmobile in the Arctic to create community video materials. In the Alaskan village of Emmonak the Skyriver project, funded by the American Office of Economic Opportunity, grew out of contact with the developers of the Fogo project. In Appalachia, in New York City, and in other parts of the lower 48 states,

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[1]Michel Guite, "Film, Video Tape, and Communi Development in Newfoundland" (Montreal and Stanford, California: Section de Communication, Université de Montréal and Institute for Communication Research, Stanford University), p. 6. (Mimeographed.)

community-level video tapes have been produced, although not always with the broad community development process associated with the Fogo and the Skyriver projects.

Size. The Salvador type of formal ETV tended to operate on the national level, in order to attain the critical mass required to generate institutional support, and to attain low unit costs. The Skyriver project on the other hand, found its origins in the Fogo project which served just 10 small communities on one small island off the coast of Newfoundland. The Skyriver project, which built upon this experience, centered on one Alaskan village.

The Salvador project was lavishly funded, and involved installing and maintaining complex transmission equipment and large numbers of television receivers. The Skyriver project, on the other hand, operated at a low level of resources, and concentrated its energies on production. The distribution and playback of materials adapted itself to the existing media environment. In cases where television sets are diffused throughout the target audience, materials have been broadcast. Where television is not available, materials have been played back to groups on film projectors and video tape recorders.

Institutional Setting. The Salvador project worked with centralized educational authorities and tried to use television to implement institutional objectives and methods. On the other hand, the Skyriver project, although funded by

government, worked through local community organizations rather than national institutions. In the Skyriver case, the regular meetings held in the community house became the institutional base for the media production process. In Fogo, the film crew worked closely with the Fogo Island Improvement Committee. In neither case was the institutional setting for the project a formal educational institution.

Target Audience. In Fogo and Skyriver, the very concept of the target audience was called into question. The term target audience comes from the literature on mass communications. The term implies the existence of a professional communicator "aiming" a pre-determined message at a passive audience. In both Fogo and Skyriver, however, the audience made major contributions to the development of the materials. At least at the community level, it seems difficult to talk in terms of a target audience. It seems more appropriate to refer to the participants in the communications process.

In both cases, the participants were the film crew, a community development worker, and the community. Participation by the community was on a voluntary basis, and involved people of all ages, and sexes. Representatives from the community expressed themselves regarding the topics to be filmed, appeared on screen commenting on the topics, and participated in the editing of the film and video tape as well.

The products of this process were shown outside the community as well as inside. In the former application,

one can speak of target audiences. Once a community felt that a film or tape represented the community position on a given issue, the product might be shown to government officials whose decisions might have an impact upon the problem under discussion. At this stage films were often targeted directly to the opinions and feelings of the government officials in question. In this second noncommunity application, it is possible to talk in terms of a target audience.

Rewards. The rewards offered the participants in the communications process were several. The most immediate was entertainment, whose value to isolated rural communities should not be underestimated. The film and tape showings were in groups, which made each viewing session into a social occasion. As Skyriver Director, Tim Kennedy put it:

> It's glamorous enough so that everybody in the community comes and screens themselves and screens their relatives. These screenings go on over an extended period of time.[2]

A more substantial reward was access by individuals and by the community to media which are usually produced centrally. Self-expression for the individual and the community in media as powerful and influential as film and video tape has a rare prize. In this process, a great deal of interaction between community members took place in ways that may not have occurred in the past.

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[2]Tim Kennedy, "The Skyriver Project: The Story of a Process," Challenge for Change Newsletter (Toronto: National Film Board of Canada, Summer, 1973), p. 4.

> The image itself forces a safe kind of reaction that face-to-face confrontation wouldn't at that point. Eventually, through these screenings and discussions, the people actually get to the point where they start seeing if there is a consensus on different issues, such as education or housing.[3]

The longer term reward, which participation in the community television process offered, was community action and changes in the community life. Of course, the mediated communications process, and its product, the film or tape which is shown to government decision makers, were acknowledged to be only one of many inputs to actual change in the educational or housing conditions in the community.

Nonetheless, the media communications process was central to the achievement of community consensus which underlay the ensuing efforts at changing government decisions which affect these areas. Government officials have expressed the personal rewards they felt from participating in this communications process. The Lieutenant Governor of Alaska wrote, in a letter to Kennedy:

> I became so engrossed in the conversation of the village council that I wanted to actually participate in the village leaders' discussion. Certainly the entire thrust of your footage forcefully brought home the need for the use of improved communications between the village community and state government. I would like to continue this effort and I am in hopes that vehicles of communication such as this can be expanded.[4]

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[3]Ibid., p. 4.

[4]Letter from H.A. Boucher, Lieutenant Governor of Alaska, to Tim Kennedy, May 18, 1971.

One is encouraged by the fact that honest and open communication between politicians and their constituents can be a constructive and rewarding experience for both parties.

Learning Objectives. Unlike the Salvador ETV case, which elaborated institutionally determined cognitive learning objectives into programming, the Skyriver project drew its objectives from the very communications process which yielded the programming. For example, the Skyriver Project's goal of changes in education and housing did not derive from the preconceived scheme of a sponsoring institution. Rather, they grew out of the community's own deliberations, in town meetings and on video tape, regarding what problems were of central concern, and could be affected by community action.

This function of issue definition is the initial objective of television for community development. Interviews on camera with respected spokesmen on various issues provide a stimulus for groups of viewers to react to. In the discussions which take place after viewing sessions, consensus from the community evolves regarding which issues are of central concern to the community.

The next objective in the process is the identification of resources to deal with a problem or issue which has been identified as important to the community. This type of information is obtained by taping or filming

people expressing the ways in which they have dealt with the issue or problem at hand. One example is the problem of supporting one's family when one is unemployed over the winter. One interview included a man comparing the dollar income from hunting and trapping on the Labrador Coast with receiving unemployment insurance for the winter months.[5]

The next objective in the process of community development is the utilization of resources which have been identified as relevant to a problem or issue. This objective breaks down into three sub-objectives, in terms of the contribution of the media. First, recording community spokesmen and playing back publicly their feelings aims to heighten the commitment to action of those involved in the communications process. Secondly, video taping aims to cause a reason for community groups to meet and to create specific stimuli for groups to react to. Thirdly, the community video film process aims to yield a product which states accurately and eloquently the community's needs, and which can be used outside the community in order to create institutional or public support for community objectives.[6]

The objectives beyond the community level were often attained in very direct and powerful ways. Educational policy was changed to provide for schooling for native

[5]Guite, "Film, Video Tape, and Community Development in Newfoundland," p. 5. (Mimeographed.)

[6]Ibid., pp. 5-6.

children closer to home. Changes in housing policy also resulted from the community developed media materials. In a letter to Tim Kennedy, the Speaker of the Alaska House of Representatives acknowledged the power of the films he had seen:

> In a State as large as Alaska it is virtually impossible for our urban legislators to be aware, on a personal basis, of the problems of rural Alaska. Yet they are called upon to make decisions affecting these areas. Your films are the most effective means I have encountered of providing the type of reliable, intimate information exchange on which sound decisions can be made by both government officials and rural Alaskans.
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> As you know, the films were enthusiastically received and acted upon by my colleagues regardless of political affiliation which, in very pragmatic terms, is the most impressive indicator of the success of the Skyriver Project.[7]

Methods of Production. The method of community television is participation. The commitment to professionalism which rules both commercial entertainment television and the Salvador ETV model is not present. For tightly scripted lecture or drama, community television substitutes spontaneous events and expression. For professional actors, community television substitutes real people speaking naturally. For elaborate editing and visual effects, community television substitutes a look of realism.

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[7]Undated letter from Gene Guess, Speaker, Alaska House of Representatives, to Tim Kennedy, Director, Skyriver project.

It is important to note, however, that participation by nonprofessionals can assume many forms. When nonprofessionals appear on camera one type of participation is obtained. When nonprofessionals control the editing process, another type of participation is obtained. When nonprofessionals operate the equipment, one elicits yet another type of participation, and can expect another type of realism to emerge. Fogo and Skyriver represent two stages in an ongoing attempt to define what types of participation by nonprofessionals are desirable and effective. One of the major features of both Fogo and Skyriver was a commitment to inviting community members to participate not only on camera, but in the process of deciding what material is included in the final product.

The commitment to participation by nonprofessionals in the communications process grew out of a lesson painfully learned by Canada's National Film Board. During the mid 1960's a young film producer from the Film Board had lived with and filmed a poor family in Montreal for three weeks. The resulting film, The Things I Cannot Change took a hard look at the life of the poor. The repercussions for the family were painful:

> Whatever effect the film had on the television audience, it was an unmitigated disaster for the Bailey family. Mother, father and children were teased, scorned, and mocked by their neighbors and friends, and life became so intolerable

> able that they were forced to move to a new neighborhood. The experience marked the whole family with bitterness. What had gone wrong? The film maker had a great tenderness for the family, and had intended no such result.[8]

When American television faced such a problem several years later, with the series, An American Family, Canadian producers had already come to grips with the issue.

Canadian producers began to realize how sensitive a matter it is to entice people to reveal their inner lives before the camera. In order to deal more responsibly with the power which the producer wielded, the Film Board decided that this type of production should have as an integral step the private screening of the films for the people who had been filmed. Changes could be suggested by the people who had been filmed. Further private screenings would permit the people who had been filmed to invite their friends and relatives to see the film before it was put into final form and made into public communications. In this way, a sympathetic and positive reaction could be obtained from acquaintances.[9]

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[8]Dorothy Todd Henaut, "The Media: Powerful Catalyst for Community Change," Educational Technology (July 1971), pp. 27-28.

[9]Ibid., p. 28.

At this stage in the Film Board's thinking, the intention behind the private screenings was not to produce a truer portrait of people's lives or to deliver control over the medium to the nonprofessionals, but rather to avoid hurting anyone's feelings:

> I don't think you would have had to change a single frame; but you would have made it possible for the message to get out without embarrassing or hurting the family, if only you had given them a chance to be involved through pre-screenings.[10]

By the time the Fogo project was undertaken, a shift in emphasis had already taken place.

The film crew which worked on Fogo had a local resident as one of its members. Before films were screened publicly they were shown to participants who were asked, "Is this a true reflection of what you were trying to say? Do you want to add to it or delete from it?" In addition, films were edited so as to minimize conflict between viewpoints. Rather than compose one film from several divergent viewpoints on one issue, a film would contain one person's views on several issues. Fogo involved an active attempt to minimize conflict and misinterpretation.

The Skyriver project built upon the experience of the Fogo process, and corrected some shortcomings in the Fogo method. The Fogo project had lasted only six months. Its main impetus had come from outside the community, and

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[10]George Stoney, National Film Board Producer, quoted by Henaut, Educational Technology, p. 28.

the staff of the project was mainly middle-class university personnel. Although the participants had been asked to pass judgement on the validity of the film statements, no changes in the films had been suggested in the pre-screening sessions. It seemed unlikely that the villagers could have been 100 percent satisfied with the work of the film crew. The people preparing to undertake Skyriver hoped to obtain a deeper participation in the production process from the audience.

The head of the Skyriver project had been in the community of Emmonak for three years before he introduced any media hardware. During that time, he had worked closely with the community in cooperative development, and had gained their confidence. When he did introduce the media equipment, he chose to work with a local resident as a major member on his team.

The amount of participation by the community in the production process was much deeper than was the case in Fogo. Determination of themes to be dealt with, choosing of spokesmen to represent community opinion on film and video tape, were the result of community meetings. Spokesmen told the interviewer in advance what they wanted to say on a given topic. It was the responsibility of the native interviewer to draw this out of the participant in a natural way. The interview was conducted in either the native Eskimo language or in English, according to the preference of the spokesman.

The project went on for three years with Kennedy as head, and was then turned over to native film makers who had been trained in the art of community film and video. The Fogo project, on the other hand, ended in six months--as abruptly as it had started.

Skyriver built upon the experience of the Fogo project, and advanced the art of community television production. Projects undertaken in other parts of the world can look to the Skyriver model as an example of an alternative television project, which had well-conceived objectives and methods.

Methods of Formative Evaluation. Formative evaluation of materials is increasingly accepted as an integral feature of the production process in community film and video. Recently, an important international conference of film makers working in Africa and Asia recommended:

> . . . that films should always be made with the consultation of the film users, and where possible material should be pretested in the field at various stages of scripting and production. Post-screening evaluation should be standard professional practice.

The fact that this recommendation should have to be made is an indication of how often formative evaluation has

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Jim Potts, "The Function of Film as an Educational Medium in Development work: A Report on the Dag Hammarskjold Foundation Centre Seminar" (Uppsala, Sweden: Octoger 1974), p. 11. (Mimeographed.)

been lacking from media projects in the past. The two projects currently under consideration, offered no hard data on formative evaluation, and did not employ researchers on their production staffs. In what sense did they perform adequate formative evaluation? How did they go about formative evaluation? Why did they approach the subject as they did?

One researcher who has been involved with summative evaluations of community film and television projects has summarized the dilemma regarding traditional research methods which is faced by community development workers and community media producers.

> The philosophy of community development that calls for community control over local activities is seen as conflicting with a scientific inquiry based on methods imported from outside the community, for goals that are only partly related to local needs and carried out by research personnel with only short-term commitments to the communities where they work.[12]

In addition, resistance to participating in scientific research approaches the core of the community worker's feelings about the nature of his work. The same writer notes reaction against:

> Seeing the chilled and exacting hand of scientific methodology grappling with community development techniques that are often considered more

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[12] Guite, "Film, Video Tape, and Community Development in Newfoundland," undated mimeograph, p. 47.

> of an art form than a science, built on human relationships and intuitive 'feelings' about a community, rather than on systematic goal-oriented techniques for accelerating change.[13]

The personnel in the Fogo and Skyriver projects were community development workers and film makers. Film makers have generally considered themselves artists, and have not welcomed scientific evaluation of the products of their artistic vision. Indeed, they have not solicited even nonscientific participation by others in the evaluation of their work:

> Most film makers feel that their film is their own personal expression or vision of people and events, and they must have absolute control over the whole process, from shooting to editing in order to create a proper work of art. They rarely get to watch an audience watching their film and rarely think to show their subjects what they look like on the screen. Film makers are trained to think in terms of the product and not in terms of the process or of the effect they are having in a subject or an audience.[14]

The Fogo and Skyriver projects did not move entirely from art to science, in the evaluation of their materials. However, interaction between film maker, community developer and community did lead to a participatory informal evaluation by the audience of decisions taken at virtually every step in the production process. Indeed,

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[13] Ibid., p. 48.

[14] Dorothy Todd Henaut, "The Media: Powerful Catalyst for Community Change," Educational Technology, p. 28.

the main concern was the community process itself. The media product emerged as a virtual by-product of community interaction with the film and video producer.

The framework for formative evaluation cited in Chapter III begins with the definition of needs. The Fogo process sought participation from the community in the decision regarding what subjects and locations to film. Once the film had been shot and processed, it was screened in private to the individuals who had been filmed. These individuals were asked whether the film expressed adequately what they had meant to say. All participants expressed satisfaction with the films, and no changes were made.[15] Thus, the films were informally evaluated for veracity and effect by the people who had been filmed.

Informal formative evaluation became a much more involved process in the Skyriver project, which was able to learn two basic lessons from the Fogo project. First, Fogo had relied mostly on outside personnel, who did not have any previous familiarity with the residents of Fogo Island. Secondly, the film crew had come into Fogo all at once with exotic film equipment. Soon after establishing contact with the residents they had begun to film. After five weeks of filming they disappeared as rapidly as they had appeared.

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[15] Guite, "Film, Video Tape, and Community Development in Newfoundland," undated mimeograph, p. 7.

When the Fogo crews reappeared a month later with six hours of film to show the residents, they once again established an overpowering presence. There was doubt as to whether the residents had given a complete reaction to the films they were shown. It seems unlikely that the initial films would have expressed their views well enough so as to require no changes. The films were shown on the island to university audiences and to government decision makers. Within six months, the project was over, and the film crews had disappeared from Fogo Island forever.

The Skyriver project drew from this experience the lesson that the media producers should be people who were well known to the community, and should remain in the community for a prolonged stay. Secondly, the degree of participation by the community in the generation and revision of materials would have to be much greater.

The process employed in Skyriver was able to make use of portable video technology, which had not existed when the Fogo project was undertaken. The first step in Skyriver involved extensive video taping of community people expressing their opinions on a wide range of topics. One of the advantages of the video equipment is that community people can operate it themselves.

Screenings of the tapes were made into a social event. During repeated screenings, the community searched

for consensus on important issues. As consensus on an issue emerged, the community chose spokesmen to represent the group view on an issue. Only when this participatory "needs analysis," and "task analysis" had been completed, were the professionals of the film crew called in.

The film crew operated under the supervision of an organizer and interviewer who had also been chosen by the community. This person was known to all the spokesmen, and spoke their native language. Spokesmen chose the location and language of the interview. In this way, it was assured that the medium was delivered to the spokesman, rather than the spokesman being delivered to the medium.

After the film had been shot and processed, the spokesmen were the first to see the film, in a completely private showing. They were given complete control over the editing of the film, and could ask to be filmed again in order to add any points which they may have failed to cover. Only after they signed a release form were the films shown to the community.

Unlike the Fogo process, the Skyriver process also allowed for the community to pass judgment on the accuracy of the film statement relative to the consensus which had emerged from previous screenings and discussions. If the film was unacceptable to the community, it was thrown away. If they so chose, other community members could contribute to the film. Only when the community had judged

the film to be a reflection of their consensus, is the film cleared for use outside the community.

These expanded methods of community evaluation deal with the ethical issues about research mentioned at the beginning of this section. The information generated is not structured by professional researchers but by community interaction. The research information has a direct payoff to the community in the form of revisions in a film statement which will be used outside the community to work toward improvement on problems of group concern.

The writer deliberated for some time over whether these methods should be included in the sections on methods of production or in this section. The fact that Skyriver's participatory television techniques make evaluation difficult to separate from production is an indication of the changes which result from stressing communications as process instead of product. The community becomes both producer and evaluator of a mediated statement about itself.

In a UNESCO sponsored conference in 1972, this type of participatory communications was seen as the result of a new way of considering media. Whereas previous film makers had been detached from their audience, and had sought to express their own personal vision, the conference envisioned a new type of community media producer whose aim would be to express a community vision rather than an individualistic one. In their scheme, the work of art becomes not the

statement of one communications source, but a complete communications circuit, in which the feedback becomes as powerful an element as the source.[16] In Skyriver, participation was so high as to blur the edges between source and feedback, between production and evaluation.

Software

Volume. In the Fogo and Skyriver projects the volume of software produced was not a concern. Tim Kennedy reported that during the first year of the Skyriver project, two-thirds of the funds were returned to the funding agency, rather than rush the process of bringing in the film makers.[17] Much of the software generated by Skyriver was in the form of preliminary, informal process video tapes, which were not kept. Final software products numbered thirty short films over a two year period.

In the six month long Fogo project, 20 hours of film were shot, which were edited to 27 films totalling 6 hours. As in Skyriver, however, the emphasis was not on production pressure, but rather on capturing local expression on matters of community concern.

Costs. Concrete information on costs of the software produced at Fogo and Skyriver is not available. However,

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[16]Max Egly, "Consequences of the Use of Video Technologies for Education and Culture" (Vichy, France, 1972), p. 27.

[17]Tim Kennedy, "The Skyriver Project: The Story of a Process," Challenge for Change Newsletter, p. 3.

the Extension Service of Memorial University, which conducted the Fogo project, did figure accurate costs on a subsequent project. Seven community development field workers in Labrador were provided with the resources to generate and play back video tapes in their communities.

In cost calculations, very conservative assumptions were made about equipment life and maintenance and about life of video tapes. Equipment was amortized over three years, video tape over four years. Ten percent of the yearly equipment cost was appropriated for maintenance. Eight percent of each field worker's time was allocated to video activities. The costs for equipment, maintenance, video tape and the time of office staff and field workers were added together, and divided by the number of video tapes produced. The cost per half hour of locally produced video tape amounted to $50.59.[10]

These video tapes were limited to use in the communities, with products for wider distribution being produced on the more expensive film medium. Changes in the technology of low-level video tape have made it possible to give broad distribution to such video tapes with high quality results. The time base corrector, invented in June, 1973, makes possible high quality broadcast of half-inch video tapes. This should allow both the process and product

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[10] Guite, "Film, Video Tape and Community Development in Newfoundland," undated mimeograph, pp. 31-33.

of community television to be produced on the less expensive video tape medium in future projects.

Formats. The notion of a format conceived by a professional producer in order to produce an effect in a passive audience does not enter into the Skyriver model. Participants from the audience control the decisions at every step in the production process which determine the content and format of the final film or video product.

The fact is that many of the materials produced by Skyriver appear to be in the interview format. This is not due to the decision of a professional media producer. When nonprofessionals control a media process dedicated to self-expression, the most natural outcome is for people to sit in front of the camera and talk into it. Visual embellishments occur in the materials, demonstrating on screen what the person has been expressing himself about. However, the overall impression one receives from viewing the materials is one of unselfconsciousness. There seems to have been no attempt to contrive an effective media format.

Spontaneity/Control. The unselfconsciousness of the Skyriver and Fogo materials demonstrates the commitment of the process to spontaneous expression on the screen. The initial decision not to impose an artificial structure or format on the communication is followed by a number of other decisions which attempt to maximize

spontaneity on the screen. The Skyriver project used a native organizer and interviewer, in order to make the participants feel at ease on camera. The participants were able to choose the location of the filming, the language in which he would speak, the topics he would speak about.

The control that was later exercised in editing the films and video tapes was in the hands of the community participants. Their decisions reflected not the traditional media producer's desire to create an effect in his audience, but a desire to assure that the film represented an honest reflection of what the participants had hoped to express in the filming sessions. The "deprofessionalization" of the editing process was noticed and highly valued by the government officials who viewed the films. The Lieutenant Governor of Alaska wrote:

> I appreciated being a part of what was taking place rather than being spoonfed something that a film editor thought a government official would want to see.[19]

This viewer implied a distrust of media professionals and felt gratified that such intermediaries between himself and the subjects of the film were not present.

Didactic/Dialogue. The tone of the materials produced by the Skyriver model is of dialogue. The entire

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[19]Letter from H.A. Boucher, Lieutenant Governor of Alaska, to Tim Kennedy, May 18, 1971.

goal of the process is dialogue within the community regarding major unsolved community problems. For the producer to assume a position on any of the community problems under consideration and to communicate that position through the media in a didactic way would be counter productive. In the words of Tim Kennedy:

> The organizer within this process cannot be an active advocate for any position. The organizer must be reactive. He must only respond to the community at the community's request and become involved with the community on its own terms.[20]

The media and the producer become a mirror for the community to see itself through. The dialogue present in the community on a given issue becomes the subject of the media production.

Thus, the films themselves both contained dialogue on issues, and provoked dialogue among those present at the viewing sessions. Regarding the experience on Fogo Island, a Canadian Government Film Commissioner wrote:

> It was hoped that the playback, in an impersonal fashion, of differences of opinion and contradictions in attitude would help the islanders clarify, in their own minds, their positions. Divergent opinions could be objectively presented on film without incurring someone's undying enmity.[21]

The film medium, by portraying dialogue in a nonthreatening way, aimed to stimulate a calmer and deeper dialogue among viewers of the films.

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[20]Tim Kennedy, "The Skyriver Project: The Story of a Process," Challenge for Change Newsletter, p. 12.

[21]Hugo McPhearson, "A Challenge for the National Film Board," Challenge for Change Newsletter, p. 2.

Audio-Visual Sophistication. The use of audio and visual effects is not a part of the Skyriver process. The aim of the process is to reflect realities and opinions in the community. The notion of intensifying or distorting those realities through use of audio and visual effects that do not appear in reality would be counter to the aims of Skyriver. The community should participate to the greatest degree possible in the creation of media materials. The use of sophisticated and esoteric communication devices known only by professionals would tend to inhibit rather than promote such participation.

Hardware

Cost. The hardware necessary to undertake this type of community communications has been changing even as the model has developed. The Fogo project used professional 16 millimeter film equipment. In 1967 lower-level media options did not exist. One commentator from the National Film Board noted the drawbacks of this hardware for community media production:

> It required the presence of professionally trained cameramen, sound men, directors and other professional crew, along with bulky and excessive equipment. All, of course, involve considerable expense, and the hefty lab costs for developing and synchronizing 16 millimeter film. Then after considerable time lapse, the cutting copies of film and sound track are brought back to the community and screened on a large and heavy special double system projector. After even more time has elapsed, the finished films are ready.[22]

[22]Henaut, "The Media: Powerful Catalyst for Community Change," Educational Technology, p. 29.

The hardware of 16 millimeter film tied the Fogo project into high personnel and materials costs, as well as a cumbersome technical production process.

The same author realized that the expensive hardware and its implications meant that Fogo did not represent a replicable model for community level communications:

> This was a pilot project, but how could we expect other communities to be able to afford this kind of expense? And the Film Board certainly couldn't be expected to underwrite the same kind of project in every community that would benefit from it. We started to explore simpler means of bringing mirror machines to communities.[23]

After experimenting with slide and tape systems, the Film Board experimented with the first products of the emerging half-inch video tape technology.

Tim Kennedy, the founder and head of the Skyriver project, came into contact with the National Film Board at this time, and resolved to develop further the techniques pioneered on Fogo Island. Kennedy was able to utilize the inexpensive video tape technology for the purely community level communications. He resorted to 16 millimeter film for media products which were to have wider distribution, because of the higher impact of professional quality film among outsiders and government decision makers who had grown up viewing professional film and television.[24]

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[23]Ibid., p. 29.

[24]Tim Kennedy, "The Skyriver Project: The Story of a Process," Challenge for Change Newsletter, p. 4.

Even though film was used in the final products from Skyriver, much of the process had been turned over to the less expensive technology of half-inch video tape. A portable video unit, complete with television monitor for playback costs under $2,000. A sound 16 millimeter rig costs in the neighborhood of $15,000. Video technology also has the advantage of freeing the communications process from reliance upon outside film laboratories and technical service organizations. Video tape can be played back immediately after recording. The equipment can be operated by nonprofessionals, which also lowers costs associated with operating the hardware.

Costs of financing such a community video operation are not available from Skyriver. However, the Extension Service of the Memorial University has kept figures on the cost of equipping community development workers with video production capabilities. The annual cost of equipping seven communities with video taping equipment and an ample supply of video tapes was $10,192.51. This amounts to $1,456.07 in hardware, maintenance, and material costs per community.

Portability. The portable video tape hardware is roughly the same weight as the 16 millimeter film hardware. The video hardware is, however, less bulky. Portable video tape units can easily be carried and operated by one person. On the other hand a double system 16 millimeter

film rig, such as those used at Fogo and Skyriver, requires one person to carry and operate the camera and one person to operate the tape recorder.

Ease of Operation. The operation of a portable video tape unit can be learned in an afternoon. The sound level is regulated automatically, and the exposure of the camera is adjusted by inspecting the quality of the image in the small monitor in the camera's viewfinder. There is no problem with synchronization of sound and image, since both are recorded on the same piece of video tape. In the case of 16 millimeter film, the synchronization of image and sound must be established at the start of each shot where sound is to be included. The sound level must be adjusted by noting the fluctuations of the needle of a VU meter. The tape recorders generally used in professional 16 millimeter double system filming are relatively sophisticated pieces of equipment, which require some training to operate. The exposure of the image requires reading a light meter, which takes some experience. In many instances lighting is necessary in 16 millimeter filming while it may not be necessary in video taping the same scene.

Ease of Maintenance. The half-inch video tape is a more delicate, more complex and a less proven technology than well established 16 millimeter film. Although some routine maintenance functions can be undertaken by nonprofessionals, most repairs do require expert knowledge. Ac-

cess to such knowledge has proven difficult in the remote reaches of Canada and Alaska. Sharp temperature changes, bouncing rides on the back of snowmobiles, and transport by boat have placed equipment under unusual strain. The acting director of the Extension Service of Memorial University stated that one of his institution's biggest problems had been maintenance of video equipment. Now a technician is employed full-time by the Service in order to maintain and repair its equipment.[25] On the other hand, Tim Kennedy reported that his portable video equipment functioned flawlessly for the life of the Skyriver project with no maintenance or repairs. The equipment was used in the harshest of conditions, ranging from floods to minus 40 degree fahrenheit weather. During the life of the project, only one TV monitor malfunctioned, as a result of being dropped from a bush airplane. Kennedy attributes such rugged performance from a delicate technology to the seriousness with which his staff used the equipment.[26]

Self-Containedness of the System. One of the greatest advantages of the half-inch video equipment is its freedom from dependence upon continuous inputs of materials and technical services. Video tape can be reused. Audio

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[25]Guite, "Film, Video Tape and Community Development in Newfoundland," p. 39. (Mimeographed.)

[26]Telephone interview with Tim Kennedy, Director of the Skyriver Project, February 20, 1975.

and visual effects are achieved electronically rather than chemically and on relatively inexpensive machinery, which a project can own. On the other hand, film cannot be reused, and must be constantly replenished with outside inputs of new raw film. Processing of film and production of audial and visual effects involves dependence upon specialized laboratories and technical services.

Since the Skyriver project in 1970-73, improvements in the technology of half-inch video tape make it possible for community media projects to consider dispensing entirely with film, and its dependence upon outside services. Technical quality of the software produced by half-inch video recorders has consistently improved. More sophisticated video tape editors make it possible to achieve professional edits without the image roll-over which plagued earlier half-inch video tape editing. Finally, the time base corrector makes possible quality broadcast of such tapes as well as higher quality transfer to film or professional two-inch video tape.

Conclusion

Fogo and Skyriver represented attempts to extend audio-visual media production into settings where they had not previously existed. Unlike the ETV project in El Salvador, these projects did not remake the media environment in which they operated. Rather, they worked within

the limits of those environments.

The size of these two projects followed the approach of "thinking small" cited in Chapter Two. Instead of assembling a large "critical mass" of institutional support, as had been done in El Salvador, the planners of these projects preferred to introduce the medium on a small scale, in more modest fashion. Instead of assuming all the functions of production, transmission, reception, and utilization of materials, they concentrated their resources on production, and utilization. Transmission and reception of messages was according to the limitations of the pre-existing context.

The target audience of the projects was a non-school, non-structured audience. Rather than attach themselves to any existing institution, the media products and the process which generated them attracted their own audience. The criterion for inclusion in the audience was simply desire to participate in the creation and evaluation of media communications.

Methods of production and evaluation moved beyond standard media production techniques, propelled by proximity to the target audience, and dedication to participation by the audience in the communications process. The software which resulted from this process had attributes which were radically different from the professionalized, institutionalized software of the El Salvador project.

The amount of programming produced was relatively

small, responding to community communication needs rather than institutional schedules and deadlines. The cost was low, reflecting the projects' low-level of operation. Spontaneity, dialogue, and realism were favored over controlled, didactic programming with high degrees of audio-visual sophistication.

While the setting of the community TV projects and the relationship with the target audience explain some of the reasons behind the innovative methods and software of these projects, the type of hardware employed is another important factor. The development of new tools for media production did not represent a solution to any problems in itself. However, the development of portable, inexpensive TV production hardware did remove technological bottlenecks to low-level production and to participatory communications. Coupling unobtrusive technology whose expense could be justified at the community level with a desire to operate in lower level participatory terms made possible the strikingly new types of processes and products of Skyriver.

The technology of low-level film and video production continues to evolve. Each innovation in hardware makes possible new changes at other levels of the process of program production. Fogo and Skyriver represent points along a path of development in the techniques of community media production.

Recent developments not only in low-level video tape, but also in Super 8 film technology must be assessed to determine their potential impacts upon community media production. More professional, more automated and less expensive hardware may remove existing bottlenecks to more complete and more sustained community participation in media production. The Fogo project lasted six months; the Skyriver project lasted three years. Perhaps changes in technology will produce models of community-based media production which can be sustained indefinitely.

Furthermore, the field of nonformal education is hungry for media production techniques which can involve grass roots participation and reach an audience far beyond the community. In the next chapter, the author will attempt to synthesize the developments in community media production with experience in large-scale ETV in developing countries. This will begin the task of defining a model of television programming for large scale nonformal education.

C H A P T E R V I

THE CASE OF NFE-TV FOR COLOMBIA

The last two chapters have surveyed examples of two radically different approaches to the production and utilization of audio-visual messages. El Salvador chose to operate within the formal educational structure, to operate on a national scale, and to place its television project under the centralized control of professional educators and communicators. Skyriver chose to operate outside the formal educational system, to operate on a community level, and to decentralize control of the project within the community. This chapter will attempt to synthesize elements from both these projects into an approach to television which may serve the needs of non-formal education.

While El Salvador, Skyriver, and NFE-TV can represent alternative approaches to the use of television for education and development, they can also be seen as a progression in time, responding to shifting conditions and demands. The project in El Salvador was planned before the field of low-level television existed. The first portable half-inch video tape unit did not appear

until the year after the NAEB feasibility study was complete. Super 8 film had been introduced as an amateur medium only two years before the NAEB study. In fact, both these technologies were in their infancy, and did not represent viable alternatives for El Salvador. As a result, El Salvador had no hardware options other than high level professional film and television equipment.

In the conceptualization of television's role in education and development, alternatives to formal large-scale educational television were also lacking. International development educators were thinking in terms of such projects as the Chicago Junior College, the Hagerstown School System, the National Television Reform in Colombia, and the Territorial Reform in American Samoa. Finally, the Salvador project had begun in the 1960's, when foreign funding was available for large-scale educational projects in developing countries. The Skyriver project, on the other hand, began in the early 1970's when funding for education and social services were being reduced by an American administration unfriendly to such programs. With roots in community development, the Skyriver group was disposed to work at a lower level of resources and to work at the community level rather than within the major institutions of formal education. Furthermore, low-level technology had developed which made it possible, for the first time, to consider

production of video tape at the community level. Thus, in addition to having different objectives from El Salvador, the Skyriver project responded to the opportunities of a new technology and the restrictions of changed economic conditions.

In like manner, opportunities and conditions surrounding educational and developmental uses of audio-visual material have changed since the conceptualization of the Skyriver project five years ago. The field of nonformal education has emerged with a mandate to service the educational needs of out-of-school populations in developing regions. This new type of education plans to lay claim to all the methods and media available to developing regions. Nonformal educators aim at reaching large and diverse populations on the scale of the formal ETV model. However, they hope to offer the more relevant and participatory learning of the Skyriver model.

In the years since Skyriver, changes in the technology of low-level film and video have opened up new opportunities for education. The introduction of the time base corrector in June 1973 makes possible quality broadcast of half-inch video materials. The introduction of the Super 8 video player makes possible similar broadcast of materials generated on Super 8 film. The Super 8 film medium has improved both as a professional medium and as a medium for nonprofessionals. Super 8 cameras

costing as little as $30 can produce materials which can be broadcast over television. These developments offer many possibilities for increasing the access of nonprofessionals to self-expression via television. It becomes possible to incorporate grass roots participation into an educational process which includes large numbers of participants.

In the end of 1972, a program of regular broadcasts of community produced video tapes was begun in the community of La Ronge, Saskatchewan. Programs were aired two to three times a week and lasted anywhere from five to thirty minutes. The programs dealt with topics ranging from local Indian news, to trapping and fishing, to debates between mayoral candidates. In addition to video, Super 8 film, documentaries and animation segments have also been incorporated into the programs. The community program was scheduled right after a very popular entertainment program, so as to guarantee an audience.[1] Thus, the notion of broadcasting participatory community communications to a broader audience has begun to occur in the time since the planning of Skyriver.

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[1]Lyndsay Green, "La Ronge Community VTR Experiment," unpublished mimeograph (Ottawa, Department of Communications, Government of Canada, November, 1974), pp. 2-3.

In considering such changes in the opportunities before educators, it is important not to conceive of changes in media hardware as panaceas for educational problems. Such changes represent opportunities whose exploitation must be reasoned in a very calm and serious manner. By restraining one's enthusiasm one can avoid the pitfall of one media educator, who found himself asking: "Technology is the answer, but what was the question?"[2]

The question in this chapter will be: how can educational television in Colombia be made more relevant and effective for its viewers? The writer was asked by the USAID Mission to Colombia to consider this question for one month during the fall of 1974. This chapter will outline the major components of the answer offered in response to that question. Comments on this case will necessarily be briefer and less definite than on the Salvador and Skyriver cases. The project in Colombia is still in the stage of conceptualization. The writer feels, however, that consideration of this case can help contribute toward a definition of a general model for NFE-TV.

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[2]Cao Thanh Tung, "Technology Is The Answer, But What Was The Question," Instructional Technology Report (Washington: Information Center on Instructional Technology, July, 1974), p. 1.

Setting

Colombia has a relatively long history of educational television. In 1955, shortly after the arrival of commercial television, an experimental ETV project was undertaken. However, this project lasted only one year. After another short-lived project in the early 1960's, educational television received a boost from USAID and the Peace Corps in 1964. USAID contributed $575,000 for equipment, and the Peace Corps furnished 80 volunteers to assist in program production, equipment maintenance, and classroom utilization of ETV.[3]

The project, which was aimed at primary schools, was placed under the control of a semi-autonomous body, the National Institute of Radio and Television (INRAVISION). This institution was controlled jointly by the Ministry of Education and the Ministry of Communications, and assumed responsibility for commercial media as well as educational media.

The project begun in 1964 still continues today. Current estimates place the audience at 900,000 children, 700,000 of whom are located in urban areas.[4] However, it is difficult to know how vigorously the schools in fact partake of the programming offered by INRAVISION.

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[3]Wilbur Schramm, The New Media: Memo to Educational Planners (Paris: International Institute for Educational Planning, 1967), pp. 27-28.

[4]Personal interview with Beatriz de Canal, Head of Educational Television at INRAVISION, Bogota, Colombia, October 26, 1974.

Ever since its inception, this institution has been plagued by a lack of unified leadership. The tele-teachers are employees of the Ministry of Communications. The classroom teachers are employees of the Ministry of Education. The head of ETV in INRAVISION is an employee of the Ministry of Communications. The post of head of ETV, within the Ministry of Education has been vacant for some time. Lack of coordination between the two Ministries has been preventing the Colombian ETV system from maintaining its initial dynamism.[5]

In the capital of Bogota, yet another institution is involved in educational television. The Fondo de Capacitacion Popular, or fund for popular training, produces television programming aimed at adults and out of school youth. The fund was established by donations from private groups and a board of directors which represents various private and governmental institutions. The channel operated by Capacitacion Popular covers only the capital and its surroundings, unlike INRAVISION, whose transmitters are connected to repeaters which cover most urban areas of the country.

Current estimates of television coverage in Colombia total 5 million viewers out of a population of 25 million.[6] The medium is generally recognized as an

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[5]Personal interview with Charles B. Green, Chief of Human Resources Division, USAID Mission to Colombia, Bogota, Colombia, October 25 1974.

[6]Undated memorandum from USAID Mission to Colombia to USAID Washington.

urban medium which does, however, cut across class lines. The project proposed by the writer plans to work within the existing media environment, rather than to presume to expand coverage of television in Colombia.

Project Size

The NFE-TV workshop in Colombia plans to begin as a small undertaking, oriented toward training, and toward the production of a small number of innovative television materials. The project will be far smaller than the national level projects, but far more encompassing than the community level projects. Its production and distribution efforts will be limited to the capital city of Bogota.

Producing high quality participatory materials with low-level technology, the project will aim at creating a "demonstration effect" for the larger apparatus of Colombian educational television. Although the project would begin operating outside the mainstream of Colombian educational television, it would integrate its expertise into the major ETV institutions as the demand arose.

During its three years of life the project would grow from seven trainees in the first year to twenty-one trainees in the third year. As demand for training was articulated by the major ETV institutions, veteran trainees could be loaned to those institutions in order to conduct in-house training sessions.

Target Audience

The target audience of the project will be low income parents of young children in the capital city of Bogota. Colombian educators feel that this population has access to television, either in their homes, the homes of friends, or in community viewing centers run by Capacitacion Popular. When the project moves from the conceptualization stage to the planning stage, these assumptions will have to be investigated.

Institutional Context

Control of Colombian educational television remains fragmented between three major institutions. The Presidential Commission on tele-education was formed in the fall of 1974. The Commission was asked to study the situation and to recommend to the President a restructuring of the institutional framework of ETV which could restore its dynamism. There is no way of being certain how long the Commission's deliberations will last, or which institution will win control of a rationalized ETV system.

In the meantime, it was judged wise for the NFE-TV workshop to operate not through one of the major institutions, but to attach itself to an existing social service project, which had defined its objectives and its target population. Such an arrangement would be subject to that institution's ability to obtain air time for broadcasting programming from one of the major ETV institutions. The workshops relationship to the major ETV

institutions would have to be an indirect one. If the workshop were directly under the control of one of these institutions, it might well lose the crucial freedom to experiment and innovate beyond the confines of production schedules. If, on the other hand, the major institutions felt no stake in workshop, they might be ill disposed toward accepting and integrating its techniques into their operations. The solution would seem to be to operate the NFE-TV as a separate entity with an advisory board drawn from the major Colombian ETV institutions. In order to have concrete objectives, the workshop would become a media service of an existing nonformal education project.

The project which presented itself was a joint undertaking of the Colombian Institute for Family Welfare (ICBF) and the Center for the Development of Nonformal Education (CEDEN). After an initial period of research on the target population, this project planned to develop a curriculum, a series of media materials and a cadre of community workers. It was decided to produce the media materials with technologies which could be evaluated and used by community workers and small groups. Subsequently, as the project grew, materials would serve as modules to to be inserted in television broadcasts. Arrangements would be made with Capacitacion Popular to produce the studio segments and to air the broadcasts.

Rewards

The rewards to be offered the viewers of the broadcasts and the users of the modules are entertainment, and learning about the development of their child. The learning would be a mixture of the concrete and the abstract, with direct and indirect payoffs for the learner. The topics covered would range from nutrition and health of the child to emotional and moral development. The materials would stress the active role which the parents can take in the education and development of their child.

A second reward of participation in the project would be the chance to express oneself on the topic of parenthood, and to have one's family filmed as part of the production process.

Project Objectives

In this case, objectives exist on two levels: those of the NFE-TV workshop, and those of the ICBF-CEDEN project. The main objectives of the workshop would be:

a. Develop and test production and evaluation techniques for NFE-TV in the contest of the Colombian capital.

b. Produce and demonstrate quality media products which embody these techniques.

c. Train Colombian producers and evaluators who are committed to NFE-TV.

d. Service the media needs of the ICBF-CEDEN project.

The main objective of the ICBF-CEDEN project would be to motivate parents to take an active role in education

and development of their young children. A second objective would be to communicate certain basic facts about health, nutrition, psychology and learning, which can enable the target audience to be better parents. A third objective would be to draw upon the experience of the audience in formulating objectives and in elaborating those objectives into programming. A fourth objective would be to portray dialogue on the role of the parent in the media materials, so as to promote similar dialogue among the viewers.

Methods of Production

The third and fourth objectives listed above would require a communications process not unlike that employed by the Skyriver project. Audience expression on the topics dealt with can only be obtained by delivering the medium to the nonprofessional. This requires that the person on camera decide what will be filmed, and how. That person should also have control over the editing process. There is, however, one difference between the process as it would be employed here, and as it was employed in Skyriver.

The purpose of the Skyriver was to build community consensus through a mediated communications process. The purpose of this project would be to draw on the experience of the audience as parents--in all its diversity, and to promote dialogue as a result. Therefore, final control

over the editing of sequences containing audience expression would rest not with a group or community but with the individual or family on screen.

Taking advantage of the advances in Super 8 film technology the project would attempt various types of audience participation. In Skyriver trained personnel filmed and taped at the direction of nonprofessionals. It is now possible to deliver inexpensive Super 8 film equipment into the hands of nonprofessionals, so as to offer them complete control over the production process. An afternoon's training can provide the basic knowledge needed to produce Super 8 film. A simple camera costs from $30 upwards. A simple cassette recorder costs $30 as well. An automatic Super 8 camera with synchronized sound costs as little as $200. The cheapest video equipment costs $1,700 and is correspondingly less suitable for turning over to nonprofessionals.

The first two objectives, to motivate parents to be better parents, and to supply basic facts which can help parents be better parents do not necessarily imply participatory communications. In fact, the project should consider a Coombsian systems approach to the development and attainment of sub-objectives in this area. The full range of media formats, styles and A-V communications capabilities should be brought to bear on these objectives.

Methods of Formative Evaluation

The initial stages of formative evaluation for participatory communications would be drawn from the Skyriver model, with the individual rather than the community as evaluator. However, it is not sufficient for the individual on screen to certify that the materials reflect accurately what he hoped to communicate. To portray correctly one person's reality is not to guarantee appealing or effective communications to a broader audience.

Thus, the participatory communications, like the professional communications produced by the project would have to be pretested for appeal and effectiveness with a sample from the entire target audience. The techniques for doing this could be developed from those applied in El Salvador and mentioned in Chapter IV.

The communications produced by the project would be used first as modules in community learning centers, and later as inserts in a broadcast program. Formative evaluation at the broadcast stage would test the combined impacts of the live studio segments and the project's modules. The Salvador project also offered techniques for this type of evaluation. The televised quiz of information learned would be a means of testing educational effectiveness on one level. Community workers could have built into their training an ongoing evaluation role regarding the modules

as they were employed in the community centers and also as they diffused deeper into the community through broadcast.

Software Volume

Throughout the project, the emphasis would be on quality rather than quantity of software produced. Since creating a demonstration effect upon the major ETV institutions would be major objective of the NFE-TV project, it is imperative that only top quality products be produced. This means that production pressure must be eliminated.

In order to ensure that this would be the case, the writer recommended that the project be obligated to deliver only five, ten minute pilot program segments at the end of the first year. In all liklihood, the project would be able to produce much more software, and would show to the sponsoring institutions the five segments which both evaluation and intuition had shown to be the most effective. From these segments and additional studio bits, one pilot television "special" would be broadcast.

In the second year of the project, an additional crew of seven trainees would be added, and the volume of production would be quadrupled to twenty segments of ten minutes each. During the second year, four television "specials" on the project of parentage are broadcast.

In the third year, yet another crew of seven trainees is added, and the volume of production doubles once again to forty, ten minute segments. In the third year, twenty television shows (an entire television "season") are broadcast as a component in a course on the subject of parenthood.

In each of the three years of the project's life, the volume of software production is purposefully held very low. This is done in order to allow very high shooting ratios, and much time for design, evaluation, and revision. During the three years, the production crews will discover and develop techniques for production and formative evaluation of NFE-TV for their context. They will train themselves in these techniques, and arrive at a pace at which they can produce programming which satisfies the standards of quality which have been developed. To stipulate that high volumes of production must be met, would be to destroy the experimental quality of the NFE-TV Workshop.

SOFTWARE COSTS:

It is not possible at this point to estimate what the cost of materials will be. Furthermore, to obtain these costs, it will be necessary to wait until the techniques developed by the NFE-TV workshop are applied to a purely production function in one of the major ETV institutions. It will be difficult to separate the software output of the Workshop itself from its training output, its creation of new methods and techniques, and its publications.

Once it has settled upon some basic approaches to production, the Workshop might well decide to create a sub-group dedicated solely to production with the new methods. It may be necessary to alter some of the methods derived by the Workshop with a mind toward cutting costs. The costs of producing NFE-TV must be significantly lower than those of traditional methods, in order to create an additional incentive for major ETV institutions to make use of these methods. However, the main focus of the workshop should be to create powerful and effective methods for producing NFE-TV.

Several factors point toward the possibility of lower costs for NFE-TV. Materials used in production are far less expensive than those required by traditional professional hardware. Super 8 film costs either 24% or 47% of 16 mm. film, depending upon the technical sys-

tem used.* Video tape, of course, can be reused many times over, and imposes a very low materials cost.

In addition to materials costs, the personnel cost of the lower-level media hardware is lower than that associated with traditional professional hardware. Both super 8 and small format video tape machines are more automated, and less technically complex to operate. Being more self-contained, more portable, and less likely to require complex lighting arrangements, they can operate with smaller film or tape crews. Their technical simplicity means that production personnel can spend less of their energies in purely technical tasks and more of their energies in the design and evaluation of effective communications. This feature will reduce the need for specialists working solely in message design and evaluation.

At this point, the above notions remain speculative. It is not possible to know how technical simplicity of equipment will affect design, production, and evaluation costs. To answer these questions would be a primary goal of the NFE-TV workshop.

SOFTWARE FORMATS

The projects in Salvador and in Skyriver both

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*This statement is based upon a comparison of costs in New York of ten minutes of 16mm film plus processing and workprint with corresponding costs for super 8 in cartridges and for double super 8. Personal interview with Mark Mikolas of the Super 8 Film Group, New York, October 10, 1974.

limited themselves to a single basic format. In Salvador, the formal school environment called for the tele-class format. In the latter case, the goal of spontaneous self-expression by the community called for an interview and dialogue format. On the other hand, the Colombian NFE-TV workshop should consider incorporating a broad range of formats into its programming.

A range of formats is recommended because the Workshop's materials will need entertainment value as well as educational impact. Unlike Salvador and Skyriver, the NFE-TV materials will be transmitted to a large "open broadcast" audience. The NFE-TV programs will have to compete for audience with commercial TV programming.

For this reason, it is recommended that the Workshop experiment with a range of formats, and incorporate into its repertoire of production techniques all those formats which can be developed to a point where they possess appeal as well as educational effectiveness for the audience. Experimentation should encompass all the participatory techniques pioneered at Fogo and Skyriver, as well as new forms made possible by inexpensive super 8 equipment which can be delivered into the hands of non-professionals.

In addition to participatory communications, the Workshop should also experiment with professionalized formats, especially to deal with the Project's first two

objectives of motivating parents and supplying basic information necessary for successful parenthood. Drama, comedy, animation, puppets, and the short TV "commercial" format should be experimented with. In the development of professionalized formats, the role of the audience might be limited to the passive role of responding to draft versions of materials representing the various formats.

CONTROL/SPONTANEITY

Programming dedicated to the project's first two objectives would be tightly controlled by professionals, crafted, evaluated and revised in order to produce the intended effect in the target audience. Control from the steps of final editing, extending back into the shooting, scripting and planning would be controlled by the professional producers from the NFE-TV Workshop staff.

On the initial level of determining objectives and themes for elaborating those objectives into media materials, the producers would rely not upon themselves, but upon two sources: the ICBF-SEDEN Project staff, and the participatory communications developed with the target audience.

The participatory communications, generated by an adapted Skyriver approach, would deal with objectives three and four of the Project: to draw upon the audience's experiences as parents, and to foster an ongoing dialogue

concerning objectives and content. Unlike the professional communications aimed at the first two objectives, this type of communications would stress spontaneity of expression on the screen. The control which was exercised in determining location, in content of the scenes to be shot, and in editing would be exercised not by the professionals, but by the people who had appeared on screen.

Thus, unlike the Salvador or Skyriver, the NFE-TV project would mix the controlled and the spontaneous to achieve a variety of learning objectives. A major aim of the Workshop would be to develop both types of communications styles, and to match them with appropriate learning objectives.

DIDACTIC/DIALOGUE

The Salvador model is entirely didactic in approach. A centrally determined Ministry of Education curriculum was elaborated into television programming and taught to students, who had not participated in the determination of appropriate educational objectives or methods. On the other hand, Skyriver drew its objectives, methods and contents from the target audience. The sole orientation of the Skyriver model was to foster dialogue within its media materials and within audiences that viewed them. The NFE-TV Workshop would draw from both of these models.

The NFE-TV Workshop would deal with various learn-

ing objectives, some of which could best be dealt with by dialogue, and others of which could best be treated didactically. For example, expert information on nutrition, health and child psychology would probably fail to emerge from dialogue by the audience on these topics. Dialogue on these topics may yield valuable information concerning the target audience's perceptions regarding its opportunities and limitations in dealing with these topics. This may provide notions on how to teach expert information in ways realistic and relevant to the target population. However, the teaching of the information itself may have to be done in a didactic mode. The exact mix between dialogue and the didactic would be worked out during the course of the Project.

AUDIO-VISUAL SOPHISTICATION:

In this respect as well, the NFE-TV workshop should consider two approaches at once. The dialogue oriented participatory communications produced by the Workshop should strive for a sense of credibility and realism. It should stress audio and visual experiences which are close to those in life. In the professional communications, however, the entire range of audio and visual techniques open to the film and video tape medium should be tried out, and incorporated into the production style, insofar as they prove appealing and effective for samples from the target

population.

HARDWARE COSTS:

The video equipment of the project should be built around portable units, since the project would be able to draw upon the studios of existing ETV institutions for producing any studio segments. In addition to the portable camera and recorder units, a number of accessories are available which allow for switching and creating special effects with two cameras. Editing decks would also be included in the package, along with tripods, cables and lights. The entire video equipment budget for the first year would amount to $13,000, which is less than half the cost of one of the studio cameras used in El Salvador.

The entire range of Super 8 equipment should be available to the Workshop. The range of cameras and sound recorders which should be purchased in the first are listed below:

CAMERAS

ten "instamatic cameras" (@ $35 each)	$ 350
two Kodak Sound cameras (@$425 each)	$ 850
one Nizo S-300 with dissolve, lapse, slow and fast motion	$ 800
one Canon DS-8 double super 8 camera	$1300
one Beaulieu professional sound camera.	$1600
	$4900

TAPE RECORDERS

ten simple cassette recorders (@ $40 each) . . .	$ 400
two pocket sync recorders (@ $450 each).	$ 900
two crystal sync boxes (@ $350 each)	$ 700
two super 8 sound fullcoat recorders (@ $700). .	$1400
	$3400

EDITING EQUIPMENT

automated super 8 film processor	$12500
one super 8 sound single/double system editor. .	$ 895
one MKM horizontal editing table	$ 2000
sound mixing equipment (including one synchro-track recorder)	$ 2500
two sound projectors for non-tv screening. . . .	$ 1200
	$19095

TV PLAYBACK EQUIPMENT

one Kodak super 8 video player	$1200
one Kodak professional TV projector.	$2000
	$3200

MISCELLANEOUS

lights, tripods, sound barneys	$1200
spare parts, cables, connectors.	$1200
	$2400

For the cost of two professional 16 mm field units, the Workshop would have fifteen units capable of producing sound and picture at various levels of expense and sophistication. Included in the same total of $32,995, would

be ample editing and playback equipment to put into final video tape form, all the materials which might be generated by the field equipment. The figure also includes an automated super 8 color film processor.

Colombian television does not presently transmit color. Nonetheless, there are reasons why it might be advantageous for the NFE-TV Workshop to produce color film materials. For non-broadcast uses in community centers color would be more appealing to viewers. For demonstrations to ETV institutions, it would be preferable to have the most modern capabilities in the hands of the low-level NFE-TV innovators. Finally, when Colombian television does move into color broadcasting, it would have a corps of educators who had experience with color, and who had a file of materials in color, which would be ready for transmission.

Combined totals of video and super 8 film hardware would amount to $45,995, or 26% of the recommended budget. The amount to be invested in training, technical assistance and salaries represents 59% of the budget. Given the low cost of the hardware employed by the Workshop, a small amount of money goes a long way.

PORTABILITY:

Both the super eight hardware and the video hardware to be used by the Workshop are highly portable. The

pieces of equipment are light, and can be used in most locations without wall current or need for extra lighting. The video equipment can operate in light levels as low as four foot candles. The low-light super 8 cameras can function with three foot candles.[7]

EASE OF OPERATION

Low-level video tape equipment can be used by people with minimal training. Super 8 cameras are also highly automated. Synchronization between picture and sound in the double system professional super 8 cameras does require some training to achieve. However, the main factor which would prevent the bulk of the Workshop's equipment from being turned over to non-professionals is simply cost.

The simple $30 super 8 cameras and $40 recorders could could be routinely kept and operated by non-professionals. Occasionally the Kodak sound camera costing $425 could be turned over to a non-professional. It is unlikely, however, that the more professional super 8 cameras or the portable video units would be left in the community, since a risk of at least $1200 is involved.

The equipment to be used by the Workshop demands less technical experience and competence than does traditional professional equipment. This feature should enable the Workshop participants to spend less energy dominating

[7]Don Sutherland, "Videotape Versus Super 8," Popular Photography, February 1974, p.114.

the technical aspects of their tools, and more energy in the more significant task of developing effective communications.

EASE OF MAINTENANCE:

Aside from routine maintenance functions, any major repairs or maintenance work could be handled by simply returning the piece of equipment in question for factory service. The large amount of hardware possessed by the Workshop would allow that the features of virtually every piece of equipment are duplicated in one way or another. The Workshop would possess four portable video units, and three editing tape decks. The more professional super 8 cameras, of which there are three, also overlap as regards their capabilities. There are two complete editing systems, and two systems for converting film to video. Only the automated film processor fills a function which has not been duplicated in the hardware system. If that component were to break, however, films could be sent out for development by commercial processors in Colombia or the United States.

SELF-SUFFICIENCY OF SYSTEM:

The system described above should be relatively self-sufficient on a day to day basis. As long as periodic inputs of film, chemicals and videotape are available

from outside the country, and as long as pieces of equipment can be shipped in and out of the country for repair, there should be little additional reliance upon outside services.

Unlike 16mm systems, the system described above can generate internally all the special audio and visual effects in the standard repertoire. Sound mixes are done in house, rather than relying upon specialized outside laboratories made necessary in 16mm by the cost of the corresponding equipment. Fades, dissolves, superimpositions, titles can all be done either in the super 8 camera or during the transfer to video tape.

The only assumptions which this system does make about the final quality of the video tapes to be broadcast is that there be available in the major ETV institutions a time base corrector. In fact, this equipment has been ordered by Inravision.[8]

There is one change which could increase the degree of self-sufficiency of the system. By restricting itself to black and white film, the Workshop could substitute two cheaper less complex processors for the Kodak automated film processor. In this way, the Workshop would be less vulnerable to breakdown of the film processor. Furthermore, black and white developing

[8] Personal interviews with Enrique Rojas, producer and Beatriz de Canal, head of the Educational Television Section, INRAVISION, Bogotá, Colombia, October 28, 1974.

chemicals are more readily available in Colombia, and can be stored for longer periods of time. For the foreseeable future, Colombian television will continue to function only in black and white.[9]

SUMMARY

The NFE-TV workshop represents an approach toward synthesizing recent developments in the technology and use of television and applying them to the needs of a particular setting. The Workshop would function on a significantly lower level than the major national educational television reforms of the past. However, it would be a significantly larger and more comprehensive undertaking than the community level film and video projects undertaken in Canada and Alaska.

The Workshop's objectives and methods would incorporate aspects of both the TV professional's view of television as a tool for achieving centrally formulated institutional objectives and the community developer's view of television as a tool for communication from communities to the institutions which were created to serve them. Thus, the experiences in El Salvador and Skyriver both contain lessons for the NFE-TV Workshop. The Soft-

[9]Personal interview with Rene Hauseur, head of CEDEN and advisor to the Integrated Commission on Tele-Education, Bogotà, Colombia, November 4, 1974.

ware of the project would represent varying degrees of the didactic and of dialogue according to the content being communicated. The production style of the software would vary from the highly professionalized to the highly participatory.

The Workshop's products would differ from Skyriver in the sense that they would always aim at a broad audience. They would differ from Salvador's products in the sense that they would not be produced in large volume, and that they would always be materials generated in the real world environment (rather than the studio) with low-level tools (rather than highly professionalized ones).

CHAPTER VII

TOWARDS A MODEL FOR NFE-TV

To what extent can the design for nonformal educational television in Colombia be of relevance to nonformal education in other developing regions? Is it fruitful to think in terms of a model for NFE-TV in developing areas? If so, how far are we from defining such a model? If not, how can nonformal educators benefit from recent experiences in television for learning?

Noticing the interest of educators and filmmakers in the Skyriver process, project director Tim Kennedy wrote:

> Let me just say that skyriver is a process that has been utilized very successfully in rural Alaska. I want to share the experience with other people but I think it would be a tragic misinterpretation of the skyriver experience, if it is related to a model or formula--effective for whatever environment you're working in. The best advice I can give is that you accept the ambiguity of your situation and not succumb to an ideology that will seem to free you from it.[1]

This writer has analyzed the cases of Salvador and Skyriver. He has proposed a Workshop for a specific nonformal education situation that will build upon the experience of

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[1]Tim Kennedy, "The Skyriver Project: The Story of a Process," Challenge for Change Newsletter (Toronto: National Film Board, Summer 1973), p. 11.

both these projects. The analysis involved in that process is summarized in the table on the following pages.

Project Context and Approach	Salvador	Skyriver	Colombia
setting	remade	accepted	accepted
size	national	village	capital city
institutional context	ministry	community development	nonformal education
target audience	school broadcasts	non-school non-broadcast	non-school broadcasts
audience rewards	cognitive learning certificate more formal education	entertainment participation community action	entertainment affective learning cognitive learning
project objectives	upgrade quality and quantity of formal education	participatory communications community development	education for parenthood
methods of production	professional	participatory	mixed
methods of evaluation	professional	participatory	mixed
Software			
volume	high	low	low
cost	high	low	low
format	tele-class	dialogue	varied
control/ spontaneity	controlled	spontaneous	mixed
didactic/dialogue	didactic	dialogue	mixed
audio-visual sophistication	high	low	mixed

(continued on following page)

Hardware	Salvador	Skyriver	Colombia
cost	high	low	low
portability	none	high	high
ease of operation	low	high	high
ease of maintenance	low	low	high
self-sufficiency	low	low	high

The design of the NFE-TV workshop synthesizes aspects of two previous cases of ETV in response to the needs of a particular communications setting. Insofar as that setting contains elements common to other settings in developing countries, and addresses needs common to other nonformal education enterprises, the NFE-TV workshop design can yield tentative hypotheses or guidelines. These guidelines may be of use to designers of NFE-TV for other contexts.

In closing this study, the tentative guidelines will be discussed. However, the words of Tim Kennedy must be kept in mind. The most important guide to action is not fidelity to a preconceived model, but consideration of the requirements of the particular situation in which nonformal education is operating. The task of the designer becomes one of considering the following general hypotheses in terms of his particular situation:

Guideline no. 1: TELEVISION SHOULD RESIGN ITSELF TO PLAYING A ROLE IN NONFORMAL EDUCATION, WHICH IS SECONDARY TO THAT OF RADIO.

In the 1960's television was seen by some international development educators as a panacea for educational problems in developing areas. As a result, a number of large scale national educational television projects were executed in developing regions. In the 1970's international development educators have discovered that radio is the predominant mass medium in developing countries. Nonformal educators look upon radio as their medium. Television seems to have fallen completely out of favor with many of the funding agencies which promoted the medium so enthusiastically in the 1960's.

In reevaluating and reintroducing television, educators need to be mindful of the limitations of the medium in developing country contexts. Nonformal educators should be particularly willing to concentrate the bulk of their broadcast media efforts on radio. Being undeniably the world's major broadcast medium, radio reaches the greatest number of nonformal education's primary clients, the rural poor.

In this context, television can be seen as a specialized medium, for the present. TV can reach nonformal education's secondary clients in urban areas with particularly powerful and sophisticated communications. Television pro-

jects undertaken now can develop competencies for larger scale applications as television expands.

Guideline no. 2: TELEVISION SHOULD BE CONFINED TO COMMUNICATIONS SETTINGS WHERE THE MEDIUM IS ALREADY PRESENT, AS OPPOSED TO CASES WHERE THE COMMUNICATIONS SETTING MUST BE REMADE IN ORDER TO ACCEPT TELEVISION.

Settings where commercial or governmental forces have already created an infrastructure of television (transmission, reception, and maintenance facilities) are the most realistic settings for NFE-TV. Under these conditions, educational television projects will be able to concentrate their energies upon the creation of effective communications. Projects operating in such environments will be less expensive to finance, and more cost competitive with other media. Such projects will also be certain to have a target audience which has familiarity with the audio-visual conventions of film and television.

Guideline no. 3: FOR THE PRESENT, TELEVISION MUST BE REGARDED AS PRIMARILY AN URBAN MEDIUM IN DEVELOPING COUNTRIES.

Except for areas covered by previous ETV projects, most of the rural poor in developing countries do not live within a television infrastructure. Unless there is electrification, proximity to an urban transmitter, access to repair and maintenance facilities, using television for rural audiences becomes a very costly proposition.

Planners should regard the above hypothesis as temporary and tentative, given the fluid situation of television, and the particular dynamic growth of that medium in the world. One writer describes TV projects in the Philippines which have reached rural audiences through transmitters costing less than $20,000 and translator repeaters costing $5,000. The same author foresees a possibility of a dramatic drop in the cost of portable battery receivers in the next few years.[2]

Secondly, planners should realize the special lure of television, which can convince governments to devote seemingly irrational amounts of resources to the development of television. For example, the Chinese are currently making great efforts to inaugurate color television in their country, even though black and white television remains a highly elitist medium, with four thousand people to every receiver. Even egalitarian China has felt a need to catch up with countries offering color television.[3] Since nonformal educators work within the broad policy decisions of the world's governments, they should be pre-

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[2]Philip Bourret, "Television in Rural Areas: A Low-Cost Alternative," in Educational Television: A Policy Critique and Guide for Developing Countries, ed. Robert Arnove (Stanford, Calif.: Stanford University School of Education, 1973), pp. 417-36.

[3]John Burns, "A Night of TV in China," Christian Science Monitor (January 27, 1975), p. 7.

pared for the eventuality of world-wide expansion of television, even if their own analyses favor near total reliance on radio for nonformal education.

Guideline no. 4: BROADCAST OF LOW-LEVEL FILM AND VIDEO TAPE MATERIALS IS THE MOST ECONOMICAL APPROACH TO TELEVISION, AND THE MOST GENERALIZABLE AND REPLICABLE APPROACH FOR NFE-TV.

When governments decide to invest in television, they do so in order to reach large numbers of people at a low unit cost. Costs of production in El Salvador may seem high to nonformal educators at $1500 per hour. But when the resulting programs reach 63,000 viewers the cost per viewer amounts to $0.02 per hour. This is far lower per viewer cost than that of the one community video project which kept detailed records of its costs. The costs per hour of programming was only $101.18. However, due to the project's small number of viewers, the cost per viewer per hour amounted to $1.34, or sixty seven times the cost incurred by the Salvador project.* When tapes generated in the communities, at the costs of the Canadian project, reach a Salvador sized audience, the cost per viewer shrinks to under $0.002 per hour per viewer. In

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*Michel Guite, "Film, Videotape, and Community Development in Newfoundland" (Montreal and Stanford, Calif.: Section de Communication, Université de Montréal, and Institute for Communication Research), p. 33. (Mimeographed.)

addition to lower per viewer costs, the low-level production hardware requires a much lower overall investment. This may offer access to television for smaller institutions and institutions without access to foreign funding.

Guideline no. 5: THE DECREASING COSTS AND TECHNICAL COMPLEXITY OF TV PRODUCTION MAKES IT POSSIBLE FOR NFE-TV TO CONSIDER WORKING THROUGH SMALLER AGENCIES, AND AGENCIES CONCERNED WITH SPECIFIC PROBLEM AREAS, AS WELL AS THROUGH MAJOR BROADCASTING ORGANIZATIONS.

The range of institutional contexts in which television can be applied has broadened. A major bottleneck constraining the expansion of television production has been the monopoly which technical experts have had upon the development of TV programming. Recent changes in the technology of television have made it possible to remove this bottleneck.

Since nonformal education has no vested interest in the high cost, professional technology, NFE is in an ideal position to promote low-level television as a tool which can be produced by institutions other than broadcast organizations. In Colombia, the writer proposed creating a small NFE-TV unit to service the needs of an existing project in nonformal education for parenthood. In other situations, planners might consider creation of internal NFE-TV units for a broad range of agencies working in specific problem areas.

Guideline no. 6: NONFORMAL EDUCATION SHOULD CONSIDER USING TELEVISION TO FACILITATE COMMUNICATIONS BETWEEN ITS PRIMARY RURAL CLIENTELE AND ITS SECONDARY URBAN CLIENTELE.

Much of the nonformal education literature focuses solely on the rural poor of developing countries. These populations are certainly those most neglected by formal education, and most deserving of nonformal education. However, nonformal education can also perform many useful functions in urban areas, as in the case of the Colombian NFE-TV workshop. In addition, communications aimed at urban populations may be useful in promoting rural education.

Professor Don Kesselheim has suggested the need for a "pedagogy of the oppressor" to complement Paulo Freire's pedagogy of the oppressed.[5] Participatory television communications flowing from rural areas to the urban populations could be a useful element in such a pedagogy. Actions of city dwellers in developing countries control many aspects of the lives of rural people. City dwellers are often ignorant of the situation faced by those who grow their food. Effective communications from the rural poor

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[5]Suggested by Professor Don Kesselheim of the University of Massachusetts School of Education at a training session at the Missionary Orientation Center, Stoney Point, New York, June 1973.

to urban TV audiences might have a direct effect upon the political decisions which determine the amounts of resources which are devoted to rural development.

Guideline no. 7: BROADCAST NFE-TV INVOLVES BALANCING THE IMPLEMENTATION OF INSTITUTIONAL OBJECTIVES WITH THE ARTICULATION OF GRASS ROOTS NEEDS, AND REACTIONS TO THE IMPACTS OF INSTITUTIONS.

The broadcast use of television programming implies coexistence with institutions. Institutions generally have centrally determined objectives, and will view NFE-TV as a means of achieving those objectives. Nonformal educators, on the other hand, may feel a greater value commitment to formulating and expressing grass-roots objectives.

Concern can once again be focused on the three basic philosophies of education, which were the departure points for this paper. Philip Coombs, Wilbur Schramm and their followers are committed to the reform of educational institutions, and to the viewpoint that professionals are equipped to deal with educational problems. Ivan Illich sees institutions as self-serving bureaucracies which manipulate and distort people's needs in order to perpetuate their own growth. Paulo Freire focuses not upon institutions themselves, but upon the reality of oppression which they administer.

The writer would contend that NFE-TV can commit itself to none of these three views, but must attempt

a reconciliation of them. By its nature, broadcast TV remains a centralized technology very subject to overt and covert forms of censorship. Television is controlled by institutions. In order to have any material broadcast, NFE-TV must work within the parameters established by its sponsoring institutions.

On the other hand, NFE-TV need not accept blindly the objectives and methods of its sponsors. In order to realize its potential, NFE-TV must mean more than cheaper equipment and materials costs. The commitment to a new type of professionalized TV with intensive formative evaluation of materials is an integral part of NFE-TV. The commitment to participatory communications, to dialogue both at the grass roots, and between the grass roots and the institutions is also a strong feature in NFE-TV.

Guideline no. 8: NFE-TV SHOULD DEVELOP FURTHER THE TECHNIQUES OF PROFESSIONALIZED AND PARTICIPATORY COMMUNICATIONS. THE PARTICULAR MIX BETWEEN THESE TWO APPROACHES WILL BE DETERMINED IN EACH SITUATION, IN LIGHT OF THE DEMANDS OF THE SPONSORING INSTITUTION AND OF THE CLIENT POPULATION.

Specialized information can be communicated through professionally produced software. Such communication flows from the institution to its clients, and is constructed for appeal and effectiveness. NFE-TV should modify formats, methods of production and formative evaluation to suit the situation and the institution's style of operating. In

such communications, NFE-TV can draw upon the systems philosophy of Coombs and Schramm, in order to communicate with maximum efficiency centrally determined objectives.

As a complement to such communications, NFE-TV is committed to spontaneous expression of grass-roots needs and of dialogue on objectives and methods. Such communications flow from the audience to the institution back to the audience. At the editing stage whatever institutional censorship the situation may demand can be performed. The value commitment of the nonformal educator is of constant stretching of institutional limits by pressing against those limits with open dialogue materials generated by the target audience at the grass roots.

To the extent that NFE-TV practises dialogue in its communications, it acknowledges a debt to both Illich and Freire. NFE-TV opens up the institutions to direct expression of clients' needs, and to client feedback regarding institutional performance. NFE-TV pressures the institution to respond to those needs. It acts as a continual bridge between those whom Freire would term society's "oppressed" and society's "oppressors."

However, institutional limits are recognized and worked with. Communication must be sought rather than confrontation. To create an atmosphere of confrontation is to force sponsoring institutions to shut down the transmitter. Television may be uniquely suited to promoting

communication where face-to-face encounter might provoke confrontation. Tim Kennedy has noted that people willingly express into a camera things too controversial to say directly to someone's face. He has also noted that people respond with openness to video taped communications which would have seemed so controversial in a face-to-face mode as to have provoked a hostile and defensive reaction.[6]

In a polarised world, NFE-TV may contribute to understanding between the opposing philosophies represented in the educational sphere by Coombs, Illich, and Freire. An educational model which accepts only one of the three points of view runs the risk of failing to perceive key aspects of reality. The Coombsian may fail to perceive in adequate depth the needs of his clients. The Illichean risks failure to accept the fact that human institutions are extremely vigorous in defending their interests. The Freirean risks losing sight of the boundaries imposed on behavior by institutional realities. Both occasions where Freire's philosophy has been implemented on a large scale have been terminated with repressive violence.

The philosophy of reconciliation of these conflicting approaches may be ideally suited to the television medium. In the developing world, where passions are strong

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[6]Tim Kennedy, "The Skyriver Process: The Story of a Process," Challenge for Change Newsletter (Montreal: National Film Board of Canada, Summer 1973).

on questions of education and development, a tool which can provide key groups with communications which are honest but non-threatening may be able to contribute much toward constructive change.

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